

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

INVINCIBLE IP LLC,

Plaintiff

v.

DIGITALOCEAN, LLC,

Defendant

Case No.

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Invincible IP, LLC (“Invincible” or “Plaintiff”) files this Complaint for patent infringement against DigitalOcean, LLC. (“Defendant”), and alleges as follows:

NATURE OF THE ACTION

1. This is an action for patent infringement arising under 35 U.S.C. § 1 *et seq.*

PARTIES

2. Invincible is a limited liability company organized and existing under the laws of the State of Texas with its principal place of business in Plano, Texas.

3. Upon information and belief, Defendant is a corporation organized and existing under the laws of Delaware with a principal place of business at 101 Avenue of the Americas, New York, New York 10013.

JURISDICTION AND VENUE

4. This Court has original jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

5. Defendant is subject to personal jurisdiction of this Court based upon it being a Delaware corporation, such that Defendant is essentially at home in the State of Delaware.

6. Venue is proper in this District under 28 U.S.C. § 1400(b) because Defendant resides in this judicial district.

IDENTIFICATION OF THE ACCUSED SYSTEMS

7. Defendant provides for its customers use Digital Ocean.

8. Defendant provides for its customers use Digital Ocean Compute.

9. Defendant provides for its customers use Digital Ocean Droplets.

COUNT I (Infringement of U.S. Patent No. 8,938,634)

10. Invincible incorporates the above paragraphs as though fully set forth herein.

11. Plaintiff is the owner, by assignment, of U.S. Patent No. 8,938,634 (“the ’634 Patent”), entitled USER GENERATED DATA AND POWER SAVINGS, which issued on January 20, 2015. A copy of the ’634 Patent is attached as Exhibit 1.

12. The ’634 Patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code.

13. Defendant has been and is now infringing one or more claims of the ’634 Patent under 35 U.S.C. § 271 by making, using, selling, and offering to sell Digital Ocean in the United States without authority.

14. Claim 1 of the ’634 Patent recites:

1. A method to provide power savings in a data center, the method comprising:

identifying user-provided hardware independent power saving codes from multiple virtual machines within the data center;

converting at least a portion of the user-provided hardware independent power saving codes into a device power management message specific to a computing system in the data center, wherein the converting includes identifying the

portion of the user-provided hardware independent power saving codes relevant to the computing system and converting the portion of the user-provided hardware independent power saving codes into the device power management message specific to the computing system in the data center; and

providing the device power management message to the computing system, wherein the computing system is operative to enable or disable one or more devices within the computing system in accordance with the device power management message.

15. More particularly, Defendant infringes at least claim 1 of the '634 Patent.

16. On information and belief, Defendant makes, uses, sells, and offers to sell Digital Ocean, which practices a method to provide power savings (e.g., halts power to a host, Power Management, etc.) in a data center.

17. On information and belief, the method practiced by Digital Ocean includes a step of identifying user-provided hardware independent power saving codes (e.g., shutdown, reboot, power cycle, etc.) from multiple virtual machines (e.g., Droplets) within the data center.

18. On information and belief, the method practiced by Digital Ocean includes a step of converting at least a portion of the user-provided hardware independent power saving codes (e.g. shutdown, reboot, power cycle, etc.) into a device power management message specific to a computing system (e.g. Droplet Host) in the data center, wherein the converting includes identifying the portion of the user-provided hardware independent power saving codes (e.g. shutdown, reboot, power cycle, etc.) relevant to the computing system (e.g. Droplet Host) and converting the portion of the user-provided hardware independent power saving codes (e.g. shutdown, reboot, power cycle, etc.) into the device power management message specific to the computing system (e.g. Droplet Host) in the data center.

19. On information and belief, Digital Ocean accepts user provided hardware independent power saving code through shutdown, reboot, power cycle, etc. and converts it to device power management message specific to Droplet hosts. The computing system identifies the

shutdown, reboot, power cycle message of Droplet instance and prepare to disable the current physical Droplet Host.

20. On information and belief, Digital Ocean practices providing the device power management message (e.g. message to power on/off the server, etc.) to the computing system (e.g. Droplet Host), wherein the computing system (e.g. Droplet Host) is operative to enable or disable one or more devices (e.g., servers, etc.) within the computing system (e.g. Droplet Host) in accordance with the device power management message (e.g. message to power on/off the server).

21. Plaintiff has been damaged by Defendant's infringing activities.

COUNT II (Infringement of U.S. Patent No. 9,635,134)

22. Invincible incorporates the above paragraphs as though fully set forth herein.

23. Plaintiff is the owner, by assignment, of U.S. Patent No. 9,635,134 ("the '134 Patent"), entitled RESOURCE MANAGEMENT IN A CLOUD COMPUTING ENVIRONMENT, which issued on April 25, 2017. A copy of the '134 Patent is attached as Exhibit 2.

24. The '134 Patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code.

25. Defendant has been and is now infringing one or more claims of the '134 Patent under 35 U.S.C. § 271 by making, using, selling, and offering to sell Digital Ocean Compute in the United States without authority.

26. Claim 1 of the '134 Patent recites:

1. A method to manage resources in a cloud computing environment, comprising:
determining a consumption rate of cloud resources by one or more virtual machines (VMs), the determining based on monitoring at least one of processor usage, memory usage, or input/output (I/O) access rates for the one or more virtual machines in the cloud computing environment;

prioritizing the one or more VMs for consumption of the cloud resources using a first resource management scheme based, at least in part, on the determined consumption rate;

determining whether a change in the consumption rate of the cloud resources exceeds a predetermined threshold, the change in the consumption rate including a change in the at least one of processor usage, memory usage, I/O access rates, or a change region size based on changed regions of a graphical display generated by the one or more VMs;

prioritizing the one or more VMs for consumption of the cloud resources using a second resource management scheme based, at least in part, on a maximum capacity for utilization of allowed cloud resources for the cloud computing environment and whether the determined change in the consumption rate of the cloud resources exceeds the predetermined threshold; and

migrating the consumption of the cloud resources to alternate cloud resources located outside of the cloud computing environment for at least one of the one or more VMs based, at least in part, on the one or more VMs prioritized for consumption of the cloud resources using the second resource management scheme.

27. More particularly, Defendant infringes at least claim 1 of the '134 Patent.

28. Defendant makes, uses, sells, and offers to sell Digital Ocean Compute, which provides a method to manage resources in a cloud computing environment (e.g., Digital Ocean Compute provides monitoring and performance metrics, provides recommendations and manages resources in Digital Ocean computing environment.).

29. On information and belief, Digital Ocean Compute determines a consumption rate (e.g., CPU the node is currently consuming, and active memory usage) of cloud resources (e.g., CPU and memory) by one or more virtual machines (e.g., nodes), the determining based on monitoring at least one of processor usage (e.g., CPU usage), memory usage, or input/output (I/O) access rates for the one or more virtual machines in the cloud computing environment (e.g., the origin host where the nodes are located).

30. On information and belief, Digital Ocean Compute prioritizes the one or more VMs for consumption of the cloud resources (e.g., CPU and memory resources) using a first resource management scheme (e.g., calculation for CPU and memory demand and usage) based, at least in part, on the determined consumption rate (e.g., CPU and active memory currently used).

31. On information and belief, Digital Ocean Compute determines whether a change in the consumption rate of the cloud resources exceeds a predetermined threshold (e.g., a preset threshold level (e.g., 80%, etc.)), the change in the consumption rate including a change in the at least one of processor usage, memory usage, I/O access rates, or a change region size based on changed regions of a graphical display generated by the one or more VMs.

32. On information and belief, Digital Ocean Compute prioritizes the one or more VMs for consumption of the cloud resources (e.g., prioritizes one or more nodes) using a second resource management scheme (e.g., resource management based on resource limits, maximum nodes allocated, etc.) based, at least in part, on a maximum capacity for utilization of allowed cloud resources for the cloud computing environment (e.g., the resource limits, Maximum node count, etc.) and whether the determined change in the consumption rate of the cloud resources exceeds the predetermined threshold (e.g., whether the change in the consumption rate of the cloud resources exceeds the maximum nodes allocated, etc.).

33. On information and belief, Digital Ocean Compute migrates the consumption of the cloud resources to alternate cloud resources located outside of the cloud computing environment (e.g., destination host where the nodes are migrated to, upscaled nodes at new destination hosts, etc.) for at least one of the one or more VMs based, at least in part, on the one or more VMs prioritized for consumption of the cloud resources using the second resource

management scheme (e.g., prioritizing nodes that would reduce CPU usage limit to permissible level, without exceeding the predetermined Maximum node count.).

34. Plaintiff has been damaged by Defendant's infringing activities.

COUNT III (Infringement of U.S. Patent No. 9,678,774)

35. Invincible incorporates the above paragraphs as though fully set forth herein.

36. Plaintiff is the owner, by assignment, of U.S. Patent No. 9,678,774 ("the '774 Patent"), entitled SECURE MIGRATION OF VIRTUAL MACHINES, which issued on June 13, 2017. A copy of the '774 Patent is attached as Exhibit 3.

37. The '774 Patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code.

38. Defendant has been and is now infringing one or more claims of the '774 Patent under 35 U.S.C. § 271 by making, using, selling, and offering to sell Digital Ocean Droplets in the United States without authority.

39. Claim 1 of the '774 Patent recites:

1. A method, comprising:

receiving, at a computing device, a request to migrate a virtual machine from a source host to a target host;

determining, via a hidden process, whether a geographic location of the target host is within a particular perimeter, wherein the hidden process is executable by the virtual machine;

in response to a determination that the geographic location of the target host is within the particular perimeter, allowing, via the hidden process, a migration of the virtual machine from the source host to the target host; and

in response to a determination that the geographic location of the target host is outside of the particular perimeter, denying, via the hidden process, the migration of the virtual machine from the source host to the target host.

40. More particularly, Defendant infringes at least claim 1 of the '774 Patent.

41. Defendant makes, uses, sells, and offers to sell Digital Ocean Droplets, utilizes a method (e.g., a method for Droplets or Scalable VMs).

42. On information and belief, Digital Ocean Droplets utilizes receiving, at a computing device, a request to migrate a virtual machine from a source host to a target host. For example, on information and belief, Live Migration is a process of Digital Ocean Droplets wherein a request is received to migrate a Droplet based virtual machine from a source host to a target host.

43. On information and belief, Digital Ocean Droplets utilizes determining, via a hidden process, whether a geographic location of the target host is within a particular perimeter (e.g., a datacenter region), wherein the hidden process is executable by the virtual machine. For example, on information and belief, Digital Ocean Droplets utilizes evaluating wherein it evaluates whether the source host and target host are in the same datacenter for migration.

44. On information and belief, Digital Ocean Droplets discloses, in response to a determination that the geographic location of the target host is within the particular perimeter (e.g., a datacenter region), allowing, via the hidden process, a migration of the virtual machine from the source host to the target host. For example, on information and belief, Digital Ocean Droplets utilizes evaluating wherein it evaluates whether the source host and target host are in the same datacenter for migration.

45. On information and belief, Digital Ocean Droplets discloses, in response to a determination that the geographic location of the target host is outside of the particular perimeter (e.g., a datacenter region), denying, via the hidden process, the migration of the virtual machine from the source host to the target host. For example, on information and belief, Digital Ocean Droplets utilizes evaluating wherein it evaluates whether the source host and target host are in the

same datacenter for migration and a user cannot transfer DigitalOcean Volume Snapshots to other regions.

46. Plaintiff has been damaged by Defendant's infringing activities.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff respectfully requests the Court enter judgment against Defendant:

1. declaring that Defendant has infringed the '634 Patent;
2. awarding Plaintiff its damages suffered as a result of Defendant's infringement of the '634 Patent;
3. declaring that Defendant has infringed the '134 Patent;
4. awarding Plaintiff its damages suffered as a result of Defendant's infringement of the '134 Patent;
5. declaring that Defendant has infringed the '774 Patent;
6. awarding Plaintiff its damages suffered as a result of Defendant's infringement of the '774 Patent;
7. awarding Plaintiff its costs, attorneys' fees, expenses, and interest; and
8. granting Plaintiff such further relief as the Court finds appropriate.

JURY DEMAND

Plaintiff demands trial by jury, Under Fed. R. Civ. P. 38.

Dated: June 30, 2021

Respectfully submitted,

/s/ David S. deBruin
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