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

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|---|---|
| **INVINCIBLE IP LLC,**<br><br>Plaintiff<br><br>v.<br><br>**CITRIX SYSTEMS, INC.,**<br><br>Defendant | **Case No.** |

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Invincible IP, LLC ("Invincible" or "Plaintiff") files this Complaint for patent infringement against Citrix Systems, Inc. ("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 851 West Cypress Creek Road, Fort Lauderdale, Florida 33309.

## 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. Upon information and belief, Defendant is subject to personal jurisdiction of this Court based upon it having regularly conducted business, including the acts complained of herein, within the State of Texas and/or deriving substantial revenue from goods and services provided to individuals in Texas and in this District.

6. Venue is proper in this District under 28 U.S.C. § 1400 because Defendant has committed acts of infringement and has a regular and established place of business in this judicial district.

## IDENTIFICATION OF THE ACCUSED SYSTEMS

7. Defendant provides for its customers use Citrix Hypervisor.

8. Defendant provides for its customers use Citrix ADC Simple Queue Service.

9. Defendant provides for its customers use Citrix Xenserver.

## 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 Citrix Hypervisor 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 Citrix Hypervisor, which practices a method to provide power savings (e.g., power savings during idle mode, power savings during workload balancing in servers) in a data center.

17. On information and belief, the method practiced by Citrix Hypervisor includes a step of identifying user-provided hardware independent power codes (e.g., sleep levels in Virtual Machines and power optimization configuration in workload balancing) from multiple virtual machines within the data center.

18. On information and belief, the method practiced by Citrix Hypervisor includes a step of converting at least a portion of the user-provided hardware independent power saving codes (e.g. sleep levels in Virtual Machines and power optimization configuration in workload balancing) into a device power management message specific to a computing system (e.g. a Virtual Machine Host) in the data center, wherein the converting includes identifying the portion of the user-provided hardware independent power saving codes (e.g. sleep levels in Virtual machines and power optimization configuration in workload balancing) relevant to the computing system (e.g. a Virtual Machine Host) and converting the portion of the user-provided hardware independent

power saving codes (e.g. sleep levels in Virtual Machines, power optimization configuration in workload balancing, etc.) into the device power management message specific to the computing system (e.g. a Virtual Machine host) in the data center.

19. On information and belief, Citrix Hypervisor accepts user-provided hardware independent power saving code through controlling sleep levels for various Virtual Machine instances and converts it to a device power management message specific to Virtual Machine hosts. The user can select the type of instance needed and can control the sleep level a core at a particular instance can enter in idle state. Citrix Hypervisor identifies the sleep level settings set by the user and converts it to a message to save power (e.g. C0 state for awake core and C states for power saving core) of the core during idle state.

20. On information and belief, Citrix Hypervisor practices providing the device power management message (e.g. a message to power on/off the server, or enable a power save state based on core idle state) to the computing system (e.g. Virtual Machine Host), wherein the computing system (e.g. Virtual Machine Host) is operative to enable or disable one or more devices (e.g. cores or servers) within the computing system (e.g. Virtual Machine Host) in accordance with the device power management message (e.g. message to power on/off or enable power saving during core idle state).

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

**COUNT II (Infringement of U.S. Patent No. 8,954,993)**

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

23. Plaintiff is the owner, by assignment, of U.S. Patent No. 8,954,993 ("the '993 Patent"), entitled LOCAL MESSAGE QUEUE PROCESSING FOR CO-LOCATED WORKERS, which issued on February 10, 2015. A copy of the '993 Patent is attached as Exhibit 2.

24. The ’993 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 ’993 Patent under 35 U.S.C. § 271 by making, using, selling, and offering to sell Citrix ADC Simple Queue Service in the United States without authority.

26. Claim 1 of the ’993 Patent recites:

> 1. A method to locally process queue requests from co-located workers in a datacenter, the method comprising:
>
> detecting a producer worker at a first server sending a first message to a datacenter queue at least partially stored at a second server;
>
> storing the first message in a queue cache at the first server, wherein the queue cache includes one of a copy and a partial copy of the datacenter queue;
>
> detecting a consumer worker at the first server sending a message request to the datacenter queue;
>
> providing the stored first message to the consumer worker in response to the message request;
>
> receiving a signal from a command channel associated with the datacenter queue; and
>
> modifying the stored first message in response to receiving the signal.

27. More particularly, Defendant infringes at least claim 1 of the ’993 Patent.

28. On information and belief, Defendant makes, uses, sells, and offers to sell Citrix ADC Simple Queue Service, which practices a method to locally process queue requests from co-located workers in a datacenter.

29. On information and belief, Citrix ADC Simple Queue Service system practices detecting a producer worker at a first server sending a first message to a datacenter queue (e.g. a message queue) at least partially stored at a second server (e.g. a message queue server). Further,

on information and belief, Citrix ADC Simple Queue System, at least in internal testing and usage, utilizes Amazon Web Services Simple queue service (SQS) (e.g., message queue) for auto-scaling.

30. On information and belief, Citrix ADC Simple Queue Service practices storing the first message in a queue cache at the first server wherein the queue cache includes one of a copy and a partial copy of the datacenter queue. Further, upon information and belief, a first server stores a copy of the message in a queue cache at the first server.

31. On information and belief, Citrix ADC Simple Queue Service practices detecting a consumer worker at the first server sending a message request (e.g. request messages from the queue) to the datacenter queue (e.g. a message queue).

32. On information and belief, Citrix ADC Simple Queue Service practices receiving a signal (e.g. Delete Message request) from a command channel associated with the datacenter queue (e.g. a message queue).

33. On information and belief, Citrix ADC Simple Queue Service practices modifying the stored first message (e.g. deleting the first message) in response to receiving the signal (e.g. Delete Message request).

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

**COUNT III (Infringement of U.S. Patent No. 9,479,472)**

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

36. Plaintiff is the owner, by assignment, of U.S. Patent No. 9,479,472 ("the '472 Patent"), entitled LOCAL MESSAGE QUEUE PROCESSING FOR CO-LOCATED WORKERS, which issued on October 25, 2016. A copy of the '472 Patent is attached as Exhibit 3.

37. The '472 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 ’472 Patent under 35 U.S.C. § 271 by making, using, selling, and offering to sell Citrix ADC Simple Queue Service in the United States without authority.

39. Claim 1 of the ’472 Patent recites:

> 1. A method to locally process queue requests from co-located workers in a datacenter, the method comprising:
>
> detecting a producer worker at a first server, wherein the producer worker sends a message to a datacenter queue at least partially stored at a second server;
>
> storing the message in a queue cache at the first server;
>
> detecting a consumer worker at the first server, wherein the consumer worker sends a message request to the datacenter queue; and
>
> providing the message to the consumer worker in response to the message request.

40. More particularly, Defendant infringes at least claim 1 of the ’472 Patent.

41. On information and belief, Defendant makes, uses, sells, and offers to sell Citrix ADC Simple Queue Service, which practices a method to locally process queue requests from co-located workers in a datacenter.

42. On information and belief, Citrix ADC Simple Queue Service practices detecting a producer worker at a first server, wherein the producer worker sends a message to a datacenter queue (e.g. a message queue) at least partially stored at a second server (e.g. a message queue server). Further, on information and belief, Citrix ADC Simple Queue Service, at least in internal testing and usage, utilizes Amazon Web Services (“AWS”) Simple queue service (SQS) (e.g., message queue) for auto-scaling.

43. On information and belief, Citrix ADC Simple Queue Service practices storing the message in a queue cache at the first server.

44. On information and belief, Citrix ADC Simple Queue Service practices detecting a consumer worker (e.g. Component 2, EC2 instance, etc.) at the first server (e.g. EC2 server, etc.), wherein the consumer worker sends a message request (e.g. request messages from the queue) to the datacenter queue (e.g. a message queue).

45. On information and belief, Citrix ADC Simple Queue Service practices providing the message (e.g. message A) to the consumer worker (e.g. Component 2, EC2 instance, etc.) in response to the message request (e.g. request messages from the queue).

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

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

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

48. 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 4.

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

50. 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 Citrix Hypervisor in the United States without authority.

51. 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.

52. More particularly, Defendant infringes at least claim 1 of the ’134 Patent.

53. Defendant makes, uses, sells, and offers to sell Citrix Hypervisor, which practices a method to manage resources in a cloud computing environment (e.g., Citrix Hypervisor provides monitoring and performance metrics, provides recommendations, and manages resources in the Citrix cloud computing environment).

54. On information and belief, Citrix Hypervisor determines a consumption rate (e.g., cpu<cpu> or CPU the instance is currently consuming, and active memory usage) of cloud resources (e.g., CPU and memory) by one or more virtual machines (e.g., VMs), 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 VMs are located).

55. On information and belief, Citrix Hypervisor 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) based, at least in part, on the determined consumption rate (e.g., CPU and active memory currently used).

56. On information and belief, Citrix Hypervisor determines whether a change in the consumption rate of the cloud resources exceeds a predetermined threshold (e.g., a preset threshold level), 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.

57. On information and belief, Citrix Hypervisor prioritizes the one or more VMs for consumption of the cloud resources (e.g., prioritizes one or more VMs that would reduce the imbalance the most) using a second resource management scheme (e.g., Workload balancing power management) based, at least in part, on a maximum capacity for utilization of allowed cloud resources for the cloud computing environment (e.g., the high threshold, the total resource available for the origin host where the VMs are located) 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 causes a load imbalance which exceeds the preset threshold).

58. On information and belief, Citrix Hypervisor migrates the consumption of the cloud resources to alternate cloud resources located outside of the cloud computing environment (e.g., destination host where the VMs are migrated to) 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 VMs that would reduce the load imbalance of the original host the most upon migration by the Workload balancing functions).

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

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

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

61. 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 5.

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

63. 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 Citrix Xenserver in the United States without authority.

64. 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.

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

66. Defendant makes, uses, sells, and offers to sell Citrix Xenserver, which utilizes a method (e.g., a method for Virtual Machines)

67. On information and belief, Citrix Xenserver utilizes receiving, at a computing device, a request to migrate a virtual machine from a source host (e.g., one host) to a target host (e.g., another host).

68. On information and belief, Citrix Xenserver utilizes determining, via a hidden process, whether a geographic location of the target host is within a particular perimeter (e.g., a parameter of datacenter site or pool), wherein the hidden process is executable by the virtual machine.

69. On information and belief, Citrix Xenserver discloses that in response to a determination that the geographic location of the target host is within the particular perimeter (e.g., a parameter of datacenter site or pool), allowing, via the hidden process, a migration of the virtual machine from the source host to the target host.

70. On information and belief, Citrix Xenserver discloses that in response to a determination that the geographic location of the target host is outside of the particular perimeter (e.g., a parameter of datacenter site or pool), denying, via the hidden process, the migration of the virtual machine from the source host to the target host.

71. 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 '993 Patent;

4. awarding Plaintiff its damages suffered as a result of Defendant's infringement of the '993 Patent;

5. declaring that Defendant has infringed the '472 Patent;

6. awarding Plaintiff its damages suffered as a result of Defendant's infringement of the '472 Patent;

7. declaring that Defendant has infringed the '134 Patent;

8. awarding Plaintiff its damages suffered as a result of Defendant's infringement of the '134 Patent;

9. declaring that Defendant has infringed the '774 Patent;

10. awarding Plaintiff its damages suffered as a result of Defendant's infringement of the '774 Patent;

11. awarding Plaintiff its costs, attorneys' fees, expenses, and interest; and

12. 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 W. deBruin*

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