

TRADEMARK ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

ETAS ID: TM746052

SUBMISSION TYPE:	NEW ASSIGNMENT		
NATURE OF CONVEYANCE:	SECURITY INTEREST		
CONVEYING PARTY DATA			
Name	Formerly	Execution Date	Entity Type
TidalScale, Inc.		07/29/2022	Corporation: DELAWARE
RECEIVING PARTY DATA			
Name:	Comerica Bank		
Street Address:	250 Lytton Ave., 3rd Floor		
Internal Address:	MC 4240		
City:	Palo Alto		
State/Country:	CALIFORNIA		
Postal Code:	94301		
Entity Type:	Chartered Bank: TEXAS		
PROPERTY NUMBERS Total: 2			
Property Type	Number	Word Mark	
Registration Number:	5425224	WAVERUNNER	
Registration Number:	5651373	WAVEWATCHER	
CORRESPONDENCE DATA			
Fax Number:	2134432926		
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>			
Phone:	213-617-5493		
Email:	jcravitz@sheppardmullin.com		
Correspondent Name:	SHEPPARD, MULLIN, RICHTER & HAMPTON LLP		
Address Line 1:	333 S. HOPE ST., 43RD FLOOR		
Address Line 2:	ATTN: J. CRAVITZ		
Address Line 4:	LOS ANGELES, CALIFORNIA 90071		
ATTORNEY DOCKET NUMBER:	032A-355529		
NAME OF SUBMITTER:	Julie Cravitz		
SIGNATURE:	/julie cravitz/		
DATE SIGNED:	08/04/2022		
Total Attachments: 8			
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INTELLECTUAL PROPERTY SECURITY AGREEMENT

This Intellectual Property Security Agreement is entered into as of July 29, 2022, by and between COMERICA BANK ("Bank") and TIDALSCALE, INC., a Delaware corporation ("Grantor").

RECITALS

A. Bank has agreed to make certain advances of money and to extend certain financial accommodations to Grantor (the "Loans") in the amounts and manner set forth in that certain Loan and Security Agreement by and between Bank and Grantor dated of even date herewith (as the same may be amended, modified or supplemented from time to time, the "Loan Agreement"; capitalized terms used herein are used as defined in the Loan Agreement). Bank is willing to make the Loans to Grantor, but only upon the condition, among others, that Grantor shall grant to Bank a security interest in certain Copyrights, Trademarks and Patents to secure the obligations of Grantor under the Loan Agreement.

B. Pursuant to the terms of the Loan Agreement, Grantor has granted to Bank a security interest in all of Grantor's right, title and interest, whether presently existing or hereafter acquired, in, to and under all of the Collateral.

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, and intending to be legally bound, as collateral security for the prompt and complete payment when due of its obligations under the Loan Agreement and all other agreements now existing or hereafter arising between Grantor and Bank, Grantor hereby represents, warrants, covenants and agrees as follows:

AGREEMENT

To secure its obligations under the Loan Agreement and under any other agreement now existing or hereafter arising between Grantor and Bank, Grantor grants and pledges to Bank a security interest in all of Grantor's right, title and interest in, to and under its Intellectual Property Collateral (including without limitation those Copyrights, Patents and Trademarks listed on Schedules A, B and C hereto), and including without limitation all proceeds thereof (such as, by way of example but not by way of limitation, license royalties and proceeds of infringement suits), the right to sue for past, present and future infringements, all rights corresponding thereto throughout the world and all re-issues, divisions continuations, renewals, extensions and continuations-in-part thereof.

This security interest is granted in conjunction with the security interest granted to Bank under the Loan Agreement. The rights and remedies of Bank with respect to the security interest granted hereby are in addition to those set forth in the Loan Agreement and the other Loan Documents, and those which are now or hereafter available to Bank as a matter of law or equity. Each right, power and remedy of Bank provided for herein or in the Loan Agreement or any of the Loan Documents, or now or hereafter existing at law or in equity shall be cumulative and concurrent and shall be in addition to every right, power or remedy provided for herein and the exercise by Bank of any one or more of the rights, powers or remedies provided for in this Intellectual Property Security Agreement, the Loan Agreement or any of the other Loan Documents, or now or hereafter existing at law or in equity, shall not preclude the simultaneous or later exercise by any person, including Bank, of any or all other rights, powers or remedies.

Grantor represents and warrants that Exhibits A, B, and C attached hereto set forth any and all intellectual property rights in connection to which Grantor has registered or filed an application with either the United States Patent and Trademark Office or the United States Copyright Office, as applicable.

This Agreement may be executed in two or more counterparts, each of which shall be deemed an original but all of which together shall constitute the same instrument.

IN WITNESS WHEREOF, the parties have caused this Intellectual Property Security Agreement to be duly executed by its officers thereunto duly authorized as of the first date written above.

Address of Grantor:

1694 Dell Ave.
Campbell, CA 95008

GRANTOR:

TIDALSCALE, INC., a Delaware corporation


By: Gary Smerdon

Title: CEO

Address of Bank:

250 Lytton Ave. 3rd Floor
Mail Code 4240
Palo Alto, CA 94301

BANK:

COMERICA BANK

Attn: Manager

By: _____

Title: _____

IN WITNESS WHEREOF, the parties have caused this Intellectual Property Security Agreement to be duly executed by its officers thereunto duly authorized as of the first date written above.

Address of Grantor:

1694 Dell Ave.
Campbell, CA 95008

GRANTOR:

TIDALSCALE, INC., a Delaware corporation

By: _____

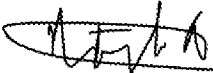
Title: _____

Address of Bank:

250 Lytton Ave. 3rd Floor
Mail Code 4240
Palo Alto, CA 94301

BANK:

COMERICA BANK

By:  _____

Title: VP _____

Attn: Manager

EXHIBIT A

Copyrights

<u>Description</u>	<u>Registration Number</u>	<u>Registration Date</u>
None.		

EXHIBIT B

Patents

<u>Description</u>	<u>Patent Application No./Issued Patent No.</u>	<u>Date</u>
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See Attached.

Awarded	Awarded Patent #	Award Date	Inventor	Country	Title	Short Description
TIDAP001	9191435 B2	2015-11-17	Isaac R. Nassi	U.S.	Selective Data Migration Or Remapping Of Virtual Processors To Provide Required Data Accessibility To Processor Cores	Covers hierarchical nature of a distributed virtual machine, memory addressing, resource migration
TIDAP001C1	9609048 B1	2017-03-28	Isaac R. Nassi	U.S.	Resource Request And Transfer In A Multi-Node Distributed System	Use of machine learning as determined by non-linear weighted polynomial for migration decision making
TIDAP002	10187452 B2	2019-01-22	Isaac R. Nassi	U.S.	Hierarchical Dynamic Scheduling	Scheduling virtual processors and binding them to physical processors
TIDAP001C2	10205772 B2	2019-02-12	Isaac R. Nassi	U.S.	Saving and Resuming Continuation on a Physical Processor After Virtual Processor Stalls	How to migrate virtual processors between nodes
TIDAP006	10353736 B2	2019-07-16	Isaac R. Nassi et al	U.S.	Associating Working Sets and Threads	Using threads to compute working sets across a distributed virtual machine
TIDAP005KR	10-2051282	2019-11-27	Isaac R. Nassi	Korea	Network Attached Memory Using Selective Resource Migration	Use of remote memory to increase perceived total memory in a distributed virtual machine
TIDAP005JP	6652646	2020-01-27	Isaac R. Nassi	Japan	Network Attached Memory Using Selective Resource Migration	Use of remote memory to increase perceived total memory in a distributed virtual machine
TIDAP011	10579274 B2	2020-03-03	Isaac R. Nassi et al	U.S.	Hierarchical Stalling Strategies For Handling Stalling Events In A Virtualized Environment	Enhanced and short-circuited machine learning algorithms for managing resource migration in a distributed virtual machine
TIDAP007	10579421 B2	2020-03-03	Isaac R. Nassi et al	U.S.	Dynamic Scheduling Of Virtual Processors In A Distributed System	Enhancements to TidalTree, covering optimizations of hierarchical dynamic scheduling
TIDAP010	10620992 B2	2020-04-14	Isaac R. Nassi et al	U.S.	Resource Migration Negotiation	Making decisions about when to move pages and when not to, based on negotiation among nodes in a distributed virtual machine
TIDAP001C3	10623479 B2	2020-04-14	Isaac R. Nassi	U.S.	Selective Migration of Resources or Remapping of Virtual Processors to Provide Access to Resources	Optimizations related to synchronous and asynchronous events that trigger resource migration.
TIDAP002C1	10645150 B2	2020-05-05	Isaac R. Nassi	U.S.	Hierarchical Dynamic Scheduling	Scheduling virtual processors and binding them to physical processors
TIDAP005GB	3356936	2020-05-27	Isaac R. Nassi	U.K.	Network Attached Memory Using Selective Resource Migration	Use of remote memory to increase perceived total memory in a distributed virtual machine
TIDAP005FR	3356936	2020-05-27	Isaac R. Nassi	France	Network Attached Memory Using Selective Resource Migration	Use of remote memory to increase perceived total memory in a distributed virtual machine
TIDAP005EP	3356936	2020-05-27	Isaac R. Nassi	Europe P.C.	Network Attached Memory Using Selective Resource Migration	Use of remote memory to increase perceived total memory in a distributed virtual machine
TIDAP005DE	602016037237.1	2020-05-27	Isaac R. Nassi	Germany	Network Attached Memory Using Selective Resource Migration	Use of remote memory to increase perceived total memory in a distributed virtual machine
TIDAP012	10783000 B2	2020-09-22	Isaac R. Nassi et al	U.S.	Associating Working Sets and Threads	Using cascaded machine learning decision making for resource migration in a distributed virtual machine
TIDAP012	10817347 B2	2020-10-27	Isaac R. Nassi et al	U.S.	Entanglement of Pages and Guest Threads	Using Guest Threads to associate sets of pages to form optimized working sets
TIDAP017	11023135 B2	2021-06-01	Isaac R. Nassi et al	U.S.	Handling Frequently Accessed Pages	Migration decision-making and tracking of pages that are very frequently written across the cluster
TIDAP014	11050620 B2	2021-06-29	David P. Reed et al	U.S.	Dynamic Reconfiguration Of Resilient Logical Modules In A Software Defined Server	distributed virtual machine, and how to dynamically scale a software defined server up or down as needed
TIDAP006JP	6,924,820	2021-08-04	Isaac R. Nassi	Japan	Associating Working Sets and Threads	Using threads to compute working sets across a distributed virtual machine
TIDAP001C4	11159605 B2	2021-10-26	Isaac R. Nassi	U.S.	Hierarchical Dynamic Scheduling	Continuation patent on scheduling virtual processors across nodes in a distributed virtual machine
TIDAP015	11175927 B2	2021-11-16	David P. Reed et al	U.S.	Fast Boot	Use of dominant pages to speed up the boot process when a distributed virtual machine is started or restarted

TIDAP005CN	ZL201680069485.7	2021-11-16	Isaac R. Nassi et al.	China	Network Attached Memory Using Selective Resource Migration	Use of remote memory to increase perceived total memory in a distributed virtual machine
TIDAP005	11240334 B2	2022-02-01	Isaac R. Nassi et al.	US	Network Attached Memory Using Selective Resource Migration	Use of remote memory to increase perceived total memory in a distributed virtual machine
TIDAP013	11275600	2022-03-15	Leon Dang, et al	US	Virtualized I/O	Handling and optimization techniques for local and forwarded I/O operations in a distributed virtual machine including remote delivery and acknowledgements of remote interrupts
TIDAP010C1	16/799593	2020-02-24	Ike Nassi et al	U.S.	Resource migration negotiation	Continuation patent. Making decisions about when to move pages and when not to, based on negotiation among nodes in a distributed virtual machine
	Awarded Patents		27			
	Implemented Patents		11			
	Partially Implemented		2			
	All Claims Approved US		0			
	US		19			
	Net US Awarded Patents		19			
Provisionals						
TIDAP019	17/081529	2019-10-30	Brian D. Moffet	US, PCT	Goal-Directed Software-Defined NUMA Working Set Management	a goal is set for a virtual NUMA domain, and the HK makes decisions to achieve the virtual NUMA configuration (best efforts)
TIDAP021	63/298580	2022-01-22	Gary Smerdon et al	US	Non-Disruptive Compute-Server Preventive Health Check And Maintenance	How to perform periodic hardware health checks, maintenance and updates without having to restart an operating system in a distributed virtual machine
TIDAP022	63/298581	2022-01-22	Isaac R. Nassi et al	US	Wear-Leveling Of DRAM In Computers	How to non-disruptively perform DRAM health checks and how to detect and manage unreliable memory in a non-disruptive way.
TIDAP023	63/345891	2022-05-22	Smerdon et al	US	SYSTEM WEAR LEVELING	Present a sorted list of estimated life remaining. Use it at boot time or periodically.
TIDAP024	63/345895	2022-05-22	Smerdon et al	US	WEAR-LEVELING OF MEMORY	Minimize the usage of the memory areas that are more likely to fail, at boot time, periodically, by tracking usage
TIDAP025	63/345708	2022-05-25	Smerdon et al	US	NON-DISRUPTIVE COMPUTE-SERVER PREVENTIVE HEALTH CHECK AND MAINTENANCE	SBS, performing of diagnostics (e.g., Advanced Memory Test), use of fast restart (e.g., Tsunami) in the context of preventive diagnosis and maintenance
TIDAP026	63/356865	2022-06-22	Fitzpatrick et al	US	High Availability and Disaster Recovery	In a situation where a running secondary server can be used to replace a primary, the secondary can operate in a reduced configuration until it is need to inflate based on the failure of the primary.
TIDAP011C1	16/738862	2020-01-09	Isaac R. Nassi et al	US	Hierarchical Stalling Strategies for Handling Stalling Events in a Virtualized Environment	
	Provisional Patents		8			

EXHIBIT C

Trademarks

<u>Description</u>	<u>Registration/ Application Number</u>	<u>Registration/ Application Date</u>
Trademark (WaveRunner Registered) - 2018.03.13	Reg. No. 5,425,224	Mar. 13, 2018
Trademark (WaveWatcher Registered) - 2019.01.08	Reg.No. 5,651,373	Jan. 08, 2019