

TRADEMARK ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

ETAS ID: TM512069

SUBMISSION TYPE:	NEW ASSIGNMENT		
NATURE OF CONVEYANCE:	SECURITY INTEREST		
CONVEYING PARTY DATA			
Name	Formerly	Execution Date	Entity Type
Dasan Zhone Solutions, Inc.		02/27/2019	Corporation: DELAWARE
Premisys Communications, Inc.		02/27/2019	Corporation: DELAWARE
Paradyne Networks, Inc.		02/27/2019	Corporation: DELAWARE
Dasan Network Solutions, Inc.		02/27/2019	Corporation: CALIFORNIA
Keymile GmbH		02/27/2019	Gesellschaft Mit Beschränkter Haftung (GmbH): GERMANY
Dasan Network Solutions, Inc.		02/27/2019	Corporation: KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF
Paradyne Corporation		02/27/2019	Corporation: DELAWARE
RECEIVING PARTY DATA			
Name:	PNC Bank, National Association		
Street Address:	500 First Avenue		
Internal Address:	Commercial Loan Service Center/DCC		
City:	Pittsburgh		
State/Country:	PENNSYLVANIA		
Postal Code:	15219		
Entity Type:	National Banking Association: UNITED STATES		
PROPERTY NUMBERS Total: 22			
Property Type	Number	Word Mark	
Registration Number:	5667114	DZS	
Registration Number:	4745309	FIBERLAN	
Registration Number:	4252361	IP ZHONE	
Registration Number:	4313579	ZHONE FIBERCELL	
Registration Number:	4455296	BANDWIDTH CHANGES EVERYTHING	
Registration Number:	3331453	ETHERXTEND	
Registration Number:	3725214	MXK	
Registration Number:	3390835	ZNID	
Registration Number:	2885561	REACHDSL	
Registration Number:	2725113	ZHONE	
TRADEMARK			

OP \$565.00 5667114

Property Type	Number	Word Mark
Registration Number:	2725112	MALC
Registration Number:	2586521	ZMS
Registration Number:	2608096	SLMS
Registration Number:	2856212	BITSTORM
Registration Number:	2248498	PARADYNE
Registration Number:	2852625	KEYMILE
Registration Number:	4309562	ZHONE FIBERHOME
Serial Number:	88236798	DZS
Serial Number:	87911757	DZS FIBERCELL
Serial Number:	87923526	VNOS
Serial Number:	87440078	DZS EVERY CONNECTION MATTERS
Serial Number:	87787790	ONTT

CORRESPONDENCE DATA

Fax Number: 2158325619

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.

Phone: 2155695619

Email: pecsenye@blankrome.com

Correspondent Name: Timothy D. Pecsénye

Address Line 1: One Logan Square

Address Line 2: 8th Floor

Address Line 4: Philadelphia, PENNSYLVANIA 19103

ATTORNEY DOCKET NUMBER:	074658-18113
NAME OF SUBMITTER:	Timothy D. Pecsénye
SIGNATURE:	/Timothy D. Pecsénye/
DATE SIGNED:	02/28/2019

Total Attachments: 18

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INTELLECTUAL PROPERTY SECURITY AGREEMENT

This INTELLECTUAL PROPERTY SECURITY AGREEMENT (this “Agreement”), dated as of February 27, 2019, is made by DASAN ZHONG SOLUTIONS, INC., a Delaware corporation (“DZSI”), PREMISYS COMMUNICATIONS, INC., a Delaware corporation (“Premisys”), PARADYNE NETWORKS, INC., a Delaware corporation (“Paradyne Networks”), PARADYNE CORPORATION, a Delaware corporation (“Paradyne Corporation”), DASAN NETWORK SOLUTIONS, INC., a California corporation (“DNS”), KEYMILE GMBH, a limited liability company (Gesellschaft mit beschränkter Haftung) organized under the laws of Germany, registered with the commercial register (Handelsregister) of the local court (Amtsgericht) of Hannover under registration number HRB 208693 (“KeyMile”), and DASAN NETWORK SOLUTIONS, INC., a corporation organized under the laws of the Republic of Korea (“DNS Korea” and together with DZSI, Premisys, Paradyne Networks, Paradyne Corporation, DNS, KeyMile and any other Person that may hereafter become a party to this Agreement as a grantor of liens hereunder, collectively, “Grantors” and each a “Grantor”), in favor of PNC BANK, NATIONAL ASSOCIATION, in its capacity as “Agent” under the Credit Agreement referenced below (together with its successors and assigns in such capacity, including any replacement or successor “Agent” appointed under the Credit Agreement, the “Agent”).

W I T N E S S E T H:

WHEREAS, pursuant to that certain Revolving Credit, Term Loan, Guaranty and Security Agreement, dated of even date herewith, by and among the Agent, the various financial institutions named therein or which hereafter become a party thereto as lenders (collectively, the “Lenders”), the Grantors, the Borrowers, the Guarantors and each other Person hereafter joined thereto as a borrower or guarantor from time to time (as amended, modified, supplemented, renewed, restated or replaced from time to time, the “Credit Agreement”; capitalized terms used herein but not otherwise defined herein shall have the meanings given to such terms in the Credit Agreement), Agent and Lenders have made and/or will in the future make certain extensions of credit to the Grantors upon the terms and subject to the conditions set forth in the Credit Agreement;

WHEREAS, pursuant to the Credit Agreement, Grantors have granted to Agent, for its own benefit and for the ratable benefit of the Secured Parties, security interests in and liens upon substantially all of each Grantor’s assets, including without limitation all of each Grantor’s Intellectual Property and specifically including all of each Grantor’s registered United States patents, trademarks and copyrights and all of each Grantor’s filed United States patent applications, trademark applications and copyright applications, all whether now owned or hereafter created, arising and/or acquired; and

WHEREAS, Grantors have agreed to execute and deliver this Agreement, and to have a copy of this Agreement filed with the United States Patent and Trademark Office and/or the United States Copyright Office (as applicable), in order to perfect and/or protect all of Agent’s security interest in and liens upon the Intellectual Property Collateral (as hereinafter defined);

NOW, THEREFORE, in consideration of the premises and mutual covenants and agreements provided for herein and in the Credit Agreement, and for other good and valuable

considerations, the receipt and sufficiency of which are hereby acknowledged by each party hereto, and intending to be legally bound, the parties hereto agree as follows:

Section 1. Grant of Security Interest in Intellectual Property Collateral. Without limiting any other grant of any lien by any Grantor in any Collateral under the Credit Agreement or any Other Document, to secure the prompt payment and performance of all Obligations to Agent and the other Secured Parties, each Grantor hereby assigns, pledges and grants to Agent, for its benefit and for the ratable benefit of the other Secured Parties, a continuing security interest in and lien upon all of such Grantor's right, title and interest in, to and under the following Collateral of such Grantor, all whether now owned and/or existing or hereafter created, arising and/or acquired (the "Intellectual Property Collateral"):

(a) all of its registered/issued United States patents and filed United States patent applications, including, without limitation, those referred to on Schedule 1 hereto or on any Schedule to any Supplement (as defined below) delivered hereafter, together with all reissues, reexaminations, continuations, continuations-in-part, divisionals, renewals and extensions of the foregoing;

(b) all of its registered United States trademarks and filed United States trademark applications, including, without limitation, those referred to on Schedule 1 hereto or on any Schedule to any Supplement delivered hereafter, together with all renewals, reversions and extensions of the foregoing;

(c) all goodwill of the business connected with the use of, and symbolized by, each such trademark and trademark application covered by clause (b) above;

(d) all of its registered United States copyrights and filed United States copyright applications, including, without limitation, those referred to on Schedule 1 hereto or on any Schedule to any Supplement delivered hereafter, together with all renewals, reversions and extensions of the foregoing;

(e) all applications, registrations, claims, awards, judgments, amendments, improvements and insurance claims related thereto now or hereafter owned or licensed by any Grantor, or any claims for damages by way of any past, present, or future infringement of any of the foregoing, together with all accessions and additions thereto and proceeds thereof (including, without limitation, any proceeds resulting under insurance policies); and

(f) all cash, income, royalties, fees, other proceeds, Receivables, accounts and general intangibles that consist of rights of payment to or on behalf of any Grantor, proceeds from the sale, licensing or other disposition of all or any part of, or rights in, the Intellectual Property Collateral by or on behalf of any Grantor, and all rights to sue and recover at law or in equity for any past, present and future infringement, misappropriation, dilution, violation or other impairment thereof;

which such continuing security interest in and lien upon the Intellectual Property Collateral, and this Agreement, shall continue in full force and effect to secure each of the Obligations unless and until the Obligations have been indefeasibly Paid in Full (other than contingent indemnification

and reimbursement obligations in respect of which no claim for payment has yet been asserted by the Person entitled thereto) and all Commitments under the Credit Agreement have been terminated.

Section 2. Credit Agreement. The security interests and liens granted pursuant to this Agreement are granted in conjunction with, and in no way limit, the security interests and liens granted to the Agent pursuant to the Credit Agreement and/or any of the Other Documents, and each Grantor hereby acknowledges and agrees that the rights and remedies of the Agent with respect to the security interests in and liens upon the Intellectual Property Collateral made and granted hereby are more fully set forth in the Credit Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event there exists a conflict between the terms and provisions of the Credit Agreement and the terms and provisions of this Agreement, the terms and provisions of the Credit Agreement shall control.

Section 3. Registration/Filing. This Agreement is intended by the parties to be filed, and each Grantor hereby authorizes Agent to file and record a copy of this Agreement, with the United States Patent and Trademark Office and/or United States Copyright Office, as applicable.

Section 4. Grantors Remain Liable. Each Grantor hereby agrees that, anything herein to the contrary notwithstanding, such Grantor shall retain full and complete responsibility, in its commercially reasonable discretion, for the prosecution, defense, enforcement or any other necessary or desirable actions in connection with the Intellectual Property Collateral subject to a security interest hereunder.

Section 5. Agreement to Deliver Supplements. Each Grantor hereby covenants and agrees that promptly upon the acquisition by such Grantor of any new Intellectual Property Collateral, Grantors shall, concurrently with the next scheduled delivery of a Compliance Certificate under Section 9.7 or 9.8 of the Credit Agreement following acquisition of such new Intellectual Property Collateral, deliver to Agent a duly executed Supplement to this Agreement in the form of Exhibit A hereto (a "Supplement"), listing all such newly acquired Intellectual Property Collateral on Schedule I thereto, pursuant to which Grantors shall reconfirm the grant of a security interest in such newly acquired Intellectual Property Collateral to Agent, for its benefit and for the ratable benefit of the other Secured Parties, to secure the Obligations. Each Supplement is intended by the parties to be filed, and Grantors hereby authorize Agent to file and record a copy of each Supplement, with the United States Patent and Trademark Office and/or United States Copyright Office, as applicable. Regardless of whether any Supplement is delivered by Grantors, and without limiting the generality of the provisions of Section 1 hereof above, Grantors hereby confirm and agree that any and all such after-acquired Intellectual Property Collateral shall immediately and automatically upon any Grantor's acquisition of any right, title and interest therein become part of the Intellectual Property Collateral hereunder. In the event that any Grantor acquires any such new Intellectual Property Collateral but Grantors fail for whatever reason to promptly execute and deliver a Supplement to Agent pursuant to this Section 5, each Grantor hereby authorizes Agent, acting under its Power of Attorney granted pursuant to Section 8(a) below, to at any time thereafter execute in the name of such Grantor an applicable Supplement with respect to such newly acquired Intellectual Property Collateral and to file the same with the United States Patent and Trademark Office and/or United States Copyright Office, as applicable.

Section 6. Representation and Warranties. Grantors hereby represent and warrant to Agent and to the other Secured Parties that Schedule 1 sets forth a full, complete and correct list of all Intellectual Property Collateral owned by Grantors as of the date hereof.

Section 7. Events of Default and Remedies. The occurrence of an Event of Default under the Credit Agreement shall constitute an “Event of Default” under this Agreement. Upon the occurrence of and during the continuance of an Event of Default, in addition to all other rights, options, and remedies granted to Agent under the Credit Agreement or any of the Other Documents or otherwise available to Agent as a secured creditor at law or in equity, Agent may exercise, either directly or through one or more assignees or designees, all rights and remedies granted to it as a secured creditor under the Uniform Commercial Code with respect to the Intellectual Property Collateral.

Section 8. Power of Attorney. Without limiting the generality of any power of attorney granted to Agent under the Credit Agreement or any Other Document, each Grantor hereby authorizes Agent, its successors and assigns, and any officer, employee, attorney or agent thereof, as such Grantor’s true and lawful attorney-in-fact, with the power (a) to execute and endorse on behalf of and in the name of such Grantor any Supplement to this Agreement or other security agreement or similar document or instrument which Agent may deem necessary or desirable in order to create, protect, perfect or enforce the security interest provided for herein in the Intellectual Property Collateral and in each case to file or record any such Supplement or other security agreement or similar document or instrument with the United States Patent and Trademark Office and/or the United States Copyright Office, as applicable, in the name of and on behalf of such Grantor, and (b) after the occurrence and during the continuance of an Event of Default, to execute and endorse on behalf of and in the name of such Grantor any assignment, bill of sale or similar document or instrument which Agent may deem necessary or desirable in order for Agent to assign, pledge, convey or otherwise sell, transfer title in or dispose of the Intellectual Property Collateral, and in each case to file or record with the United States Patent and Trademark Office and/or the United States Copyright Office, as applicable, in the name of and on behalf of such Grantor any such assignment or bill of sale or other document executed by Agent, its successors and assigns, and any officer, employee, attorney or Agent thereof under this power of attorney. Each Grantor hereby unconditionally ratifies all that any person authorized under this power of attorney shall lawfully do or cause to be done by virtue hereof and in accordance with the terms of hereof and of the Credit Agreement and the Other Documents. This power of attorney is coupled with an interest and is and shall be irrevocable unless and until all of the Obligations (including any obligations to provide cash collateral for any Letters of Credit) have been Paid in Full (other than contingent indemnification and reimbursement obligations in respect of which no claim for payment has yet been asserted by the Person entitled thereto) and all of the Commitments under the Credit Agreement have been terminated.

Section 9. Miscellaneous. This Agreement, and all matters relating hereto or arising herefrom (whether arising under contract law, tort law or otherwise) shall, in accordance with Section 5-1401 of the General Obligations Law of the State of New York, be governed by and construed in accordance with the laws of the State of New York. Without limiting the generality of the general incorporation of the Credit Agreement herein provided for above, the provisions of Section 16.2 of the Credit Agreement {Entire Understanding}, Section 16.5 of the Credit Agreement {Indemnity}, Section 16.6 of the Credit Agreement {Notices}, Section 16.9 of the

Credit Agreement {Expenses} and Article XII of the Credit Agreement {Waivers and Judicial Proceedings} are hereby specifically incorporated by reference. If any part of this Agreement is contrary to, prohibited by, or deemed invalid under Applicable Laws or regulations, such provision shall be inapplicable and deemed omitted to the extent so contrary, prohibited or invalid, but the remainder hereof shall not be invalidated thereby and shall be given effect so far as possible. This Agreement shall be binding upon and inure to the benefit of Grantors and Agent, and their respective successors and assigns, except that no Grantor may assign or transfer any of its rights or obligations under this Agreement without the prior written consent of Agent. This Agreement may be executed in counterparts, each of which shall constitute an original, but all of which when taken together shall constitute a single contract. Any signature delivered by a party by facsimile or other electronic means of transmission (including email transmission of a PDF copy) shall be deemed to be an original signature hereto.

[Signature Pages Follow]

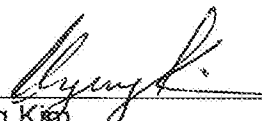
In witness whereof, each Grantor has caused this Intellectual Property Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

GRANTORS:

DASAN ZHONG SOLUTIONS, INC.,
a Delaware corporation

By: 
Name: Il Yung Kim
Title: CEO

PREMISYS COMMUNICATIONS, INC.,
a Delaware corporation

By: 
Name: Il Yung Kim
Title: CEO

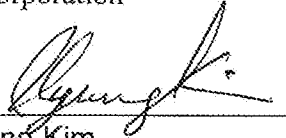
PARADYNE NETWORKS, INC.,
a Delaware corporation

By: 
Name: Il Yung Kim
Title: CEO

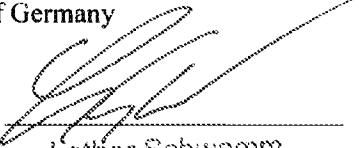

PARADYNE CORPORATION,
a Delaware corporation

By: 
Name: Il Yung Kim
Title: CEO

DASAN NETWORK SOLUTIONS, INC.,
a California corporation

By: 
Name: Il Yung Kim
Title: CEO

KEYMILE GMBH,
a limited liability company organized under the
laws of Germany

By: 
Name: Lothar Schwemm
Title: 

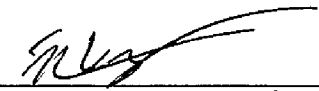
DASAN NETWORK SOLUTIONS, INC.,
a corporation organized under the laws of the
Republic of Korea

By: _____
Name:
Title:

KEYMILE GMBH,
a limited liability company organized under the
laws of Germany

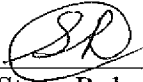
By: _____
Name:
Title:

DASAN NETWORK SOLUTIONS, INC.,
a corporation organized under the laws of the
Republic of Korea

By: 
Name: DANIEL WON
Title: PRESIDENT

ACCEPTED AND AGREED
as of the date first above written:

PNC BANK, NATIONAL ASSOCIATION, as Agent

By: 
Name: Steve Roberts
Title: Senior Vice President

Schedule 1
to
Intellectual Property Security Agreement

PATENTS, TRADEMARKS AND COPYRIGHTS

1. Patents and Patent Applications:

<u>Grantor</u>	<u>Patent/ Patent Application</u>	<u>Registration/ Application No.</u>	<u>Registration/ Application Date</u>
DASAN ZHONG SOLUTIONS, INC.	SYSTEM FOR REAL TIME VOICE QUALITY MEASUREMENT IN VOICE OVER PACKET NETWORK	7197010	03/27/2007
PARADYNE CORPORATION	PERFORMANCE CUSTOMIZATION SYSTEM AND PROCESS FOR OPTIMIZING XDSL PERFORMANCE	9130654	09/08/2015
PARADYNE CORPORATION	SYSTEM AND METHOD FOR FAULT ISOLATION IN A PACKET SWITCHING NETWORK	8867335	10/21/2015
PARADYNE CORPORATION	SYSTEM AND METHOD FOR ADAPTING A CHANGE IN CONSTELLATION DENSITY WHILE RECEIVING A SIGNAL	8279969	10/02/2012
PARADYNE CORPORATION	DETERMINATION OF NETWORK PERFORMANCE CHARACTERISTICS	7969900	06/28/2011
PARADYNE CORPORATION	SYSTEM AND METHOD FOR THE MEASUREMENT OF SERVICE QUALITY IN A COMMUNICATION NETWORK	7936689	05/03/2011
PARADYNE CORPORATION	PERFORMANCE CUSTOMIZATION SYSTEM AND PROCESS FOR OPTIMIZING XDSL PERFORMANCE	7916776	03/29/2011
PARADYNE CORPORATION	SYSTEM AND METHOD FOR ADAPTING TO A CHANGE IN CONSTELLATION DENSITY WHILE RECEIVING A SIGNAL	7835459	11/16/2010
PARADYNE CORPORATION	SUBSCRIBER LINE DRIVER WITH EQUALIZER	7747000	06/29/2010
PARADYNE CORPORATION	SYSTEM AND METHOD FOR STATISTICAL CONTROL OF POWER DISSIPATION WITH HOST ENFORCEMENT	7558203	07/07/2009
PARADYNE CORPORATION	SYSTEM AND METHOD FOR ADAPTING TO A CHANGE IN	7522679	04/21/2009

	CONSTELLATION DENSITY WHILE RECEIVING A SIGNAL		
PARADYNE CORPORATION	SYSTEM AND METHOD FOR IMPROVED DATA TRANSMISSION SPEED BY FIXING THE LOWER CORNER FREQUENCY AT A FREQUENCY ABOVE VOICE BAND IN A SYMMETRIC DSL TRANSMISSION SYSTEM	7430212	09/30/2008
PARADYNE CORPORATION	TONE ORDERED DISCRETE MULTITONE INTERLEAVER	7418048	08/26/2008
PARADYNE CORPORATION	SYSTEM AND METHOD FOR SUBSCRIBER LOOP TESTING	7289604	10/30/2007
PARADYNE CORPORATION	DIGITAL SUBSCRIBER LINE DRIVER	7149268	12/12/2006
PARADYNE CORPORATION	DISCRETE MULTITONE INTERLEAVER	7099401	08/29/2006
PARADYNE CORPORATION	TONE ORDERED DISCRETE MULTITONE INTERLEAVER	7088781	08/08/2006
PARADYNE CORPORATION	DIGITAL SUBSCRIBER LINE DRIVER	6975694	12/13/2005
PARADYNE CORPORATION	SUBSCRIBER LINE DRIVER AND TERMINATION	6782096	08/24/2004
DASAN NETWORK SOLUTIONS, INC.	OPTICAL ETHERNET APPARATUS CAPABLE OF RESET CONTROL	9806800	10/31/2017

2. Trademarks and Trademark Applications:

Grantor	Mark	Registration No.	Registration Date
DASAN ZHONE SOLUTIONS, INC.	DZS (Stylized)	5667114	01/29/2019
DASAN ZHONE SOLUTIONS, INC.	FIBERLAN	4745309	05/26/2015
DASAN ZHONE SOLUTIONS, INC.	IP ZHONE	4252361	12/04/2012
DASAN ZHONE SOLUTIONS, INC.	ZHONE FIBERCELL	4313579	04/02/2013
DASAN ZHONE SOLUTIONS, INC.	BANDWIDTH CHANGES EVERYTHING	4455296	12/24/2013
DASAN ZHONE SOLUTIONS, INC.	ETHERXTEND	3331453	11/06/2007
DASAN ZHONE SOLUTIONS, INC.	MXK	3725214	12/15/2009

DASAN ZHONE SOLUTIONS, INC.	ZNID	3390835	03/04/2008
DASAN ZHONE SOLUTIONS, INC.	REACHDSL	2885561	09/21/2004
DASAN ZHONE SOLUTIONS, INC.	ZHONE	2725113	06/10/2003
DASAN ZHONE SOLUTIONS, INC.	MALC	2725112	06/10/2003
DASAN ZHONE SOLUTIONS, INC.	ZMS	2586521	06/25/2002
DASAN ZHONE SOLUTIONS, INC.	SLMS	2608096	08/13/2002
DASAN ZHONE SOLUTIONS, INC.	BITSTORM	2856212	06/22/2004
DASAN ZHONE SOLUTIONS, INC.	PARADYNE (Stylized)	2248498	06/01/1999
KEYMILE GMBH	XMC	4890948	01/26/2016
KEYMILE GMBH	MILEGATE	3189689	12/26/2006
KEYMILE GMBH	KEYMILE	2852625	06/15/2004
DASAN ZHONE SOLUTIONS, INC. (FORMERLY KNOWN AS ZHONE TECHNOLOGIES, INC.)	ZHONE FIBERHOME	4309562	03/26/2013

Trademark Applications:

<u>Grantor</u>	<u>Mark</u>	<u>Application No.</u>	<u>Application Date</u>
DASAN ZHONE SOLUTIONS, INC.	DZS	88236798	12/20/2018
DASAN ZHONE SOLUTIONS, INC.	DZS FIBERCELL	87911757	05/08/2018
DASAN ZHONE SOLUTIONS, INC.	VNOS	87923526	05/16/2018
DASAN ZHONE SOLUTIONS, INC.	DZS EVERY CONNECTION MATTERS & Design	87440078	05/08/2017
DASAN NETWORK SOLUTIONS, INC.	ONTT	87787790	02/07/2018

3. Copyrights and Copyright Applications:

<u>Grantor</u>	<u>Title</u>	<u>Registration No.</u>	<u>Registration Date</u>
PARADYNE CORPORATION	Analysis entre	TX0001917920	09/17/1986
PARADYNE CORPORATION	Paradyne DCX network supervisory controller software	TX0001481401	12/06/1984

PARADYNE CORPORATION	Paradyne system/34 purchasing/receiving system computer program	TX0000739790	07/29/1981
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EXHIBIT A

SUPPLEMENT TO INTELLECTUAL PROPERTY SECURITY AGREEMENT

THIS SUPPLEMENT TO INTELLECTUAL PROPERTY SECURITY AGREEMENT (the "Supplement") made as of this __ day of _____, 20____, [], a [] corporation ("[]"), [], a [] corporation ("[]"), [], a [] corporation ("[]") and together with [] and any other Person that may hereafter become a party to this Agreement as a grantor of liens under the Intellectual Property Security Agreement described below, collectively, "Grantors" and each a "Grantor", in favor of PNC BANK, NATIONAL ASSOCIATION, in its capacity as "Agent" under the Credit Agreement (in such capacity, together with its successors and assigns, the "Agent");

W I T N E S S E T H

WHEREAS, Grantors and Agent are parties to a certain Intellectual Property Security Agreement, dated as of February 27, 2019 (as amended, modified, supplemented, renewed, restated or replaced from time to time, the "IP Security Agreement"). Capitalized terms used herein but not otherwise defined herein shall have the meanings given to such terms in the IP Security Agreement;

WHEREAS, pursuant to the IP Security Agreement, to secure the prompt payment and performance of all Obligations to Agent and each other Secured Party, Grantors have assigned, pledged and granted to Agent, for its benefit and for the ratable benefit of the other Secured Parties, a continuing security interest in and to and lien upon all of such Grantor's right, title and interest in, to and under the Intellectual Property Collateral of each Grantor, all whether now owned or hereafter created, arising and/or acquired; and

WHEREAS, pursuant to the IP Security Agreement, Grantors have agreed that upon the acquisition by Grantors of any new Intellectual Property Collateral, Grantors shall deliver to Agent a Supplement to the IP Security Agreement in the form of Exhibit A thereto pursuant to which Grantors shall reconfirm the grant by them of a security interest in and lien upon all such newly acquired Intellectual Property Collateral, which such Supplement is intended by the parties to be filed with the United States Patent and Trademark Office and/or United States Copyright Office, as applicable,

NOW, THEREFORE, in consideration of the premises set forth herein and for other good and valuable consideration, receipt and sufficiency of which are hereby acknowledged by each party hereto, and intending to be legally bound, and with the foregoing background and recitals incorporated by reference, Grantors agree as follows:

1. Grant and Reaffirmation of Grant of Security Interests. Without limiting any other grant of any security interest or lien by any Grantor in and upon any Collateral under the Credit Agreement or any of the Other Documents, to secure the prompt payment and performance of all Obligations to Agent and the other Secured Parties, each Grantor hereby assigns, pledges and grants to Agent, for its benefit and for the ratable benefit of the other Secured Parties, a continuing

security interest in and to and lien upon all of such Grantor's right, title and interest in, to and under the following Collateral of Grantor, all whether now owned or hereafter created, arising and/or acquired:

(a) the newly acquired Intellectual Property Collateral listed on Schedule I to this Supplement (together with all reissues, reexaminations, continuations, continuations-in-part, divisionals, renewals and extensions of the foregoing),

(b) all goodwill of the business connected with the use of, and symbolized by, any trademark and trademark application covered by (a) above; and

(c) all other property otherwise constituting Intellectual Property Collateral relating to the foregoing.

Grantors agree that all such newly acquired Intellectual Property Collateral described above shall be included in and be part of the Intellectual Property Collateral under and subject to all of the terms and provisions of the IP Security Agreement. Grantors hereby authorize Agent to file and record a copy of this Supplement with the United States Patent and Trademark Office and/or United States Copyright Office, as applicable.

2. Representations and Warranties. Each Grantor hereby represents and warrants to Agent and to the other Secured Parties that Schedule I hereto sets forth a full, complete and correct list of all Intellectual Property Collateral owned by Grantor as of the date hereof not listed on Schedule 1 to the original IP Security Agreement or any Schedule to any other Supplement to the original IP Security Agreement delivered by Grantor since the date thereof but prior to the date hereof.

3. Incorporation of the IP Security Agreement. The terms and provisions of the IP Security Agreement are hereby incorporated by reference and this Supplement shall be considered an amendment and supplement to and part of the IP Security Agreement; all of the provisions of which IP Security Agreement are and remain in full force and effect as supplemented by this Supplement.

[Remainder of Page Left Intentionally Blank]

IN WITNESS WHEREOF, Grantors have duly executed this Supplement to the IP Security Agreement as of the date first written above.

GRANTORS:

[]

By: _____
Name:
Title:

[]

By: _____
Name:
Title:

[]

By: _____
Name:
Title:

ACCEPTED AND AGREED
as of the date first above written:

PNC BANK, NATIONAL ASSOCIATION.

By: _____
Name:
Title:

SCHEDULE I

TO SUPPLEMENT TO INTELLECTUAL PROPERTY SECURITY AGREEMENT

DATED _____