

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT7039383

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT	
<b>NATURE OF CONVEYANCE:</b>	SECURITY INTEREST	
<b>CONVEYING PARTY DATA</b>		
<b>Name</b>		<b>Execution Date</b>
PING IDENTITY CORPORATION		11/23/2021
<b>RECEIVING PARTY DATA</b>		
<b>Name:</b>	BANK OF AMERICA, N.A., AS COLLATERAL AGENT	
<b>Street Address:</b>	GATEWAY VILLAGE-900 BUILDING, 900 W. TRADE ST.	
<b>Internal Address:</b>	NC1-026-06-09 (MACLEGAL)	
<b>City:</b>	CHARLOTTE	
<b>State/Country:</b>	NORTH CAROLINA	
<b>Postal Code:</b>	28255	
<b>PROPERTY NUMBERS Total: 54</b>		
<b>Property Type</b>	<b>Number</b>	
Application Number:	16656477	
Application Number:	14801203	
Application Number:	15890333	
Application Number:	15893479	
Application Number:	14703189	
Application Number:	15640795	
Application Number:	15146881	
Application Number:	15146872	
Application Number:	16697110	
Application Number:	15784093	
Application Number:	16227632	
Application Number:	15449902	
Application Number:	14265247	
Application Number:	15181015	
Application Number:	13326163	
Application Number:	16158836	
Application Number:	14593457	
Application Number:	13544565	
Application Number:	13737525	

Property Type	Number
Application Number:	13544553
Application Number:	13774653
Application Number:	16788059
Application Number:	15792850
Application Number:	16050915
Application Number:	15164587
Application Number:	16656459
Application Number:	15793671
Application Number:	16686885
Application Number:	15164512
Application Number:	16050958
Application Number:	14118232
Application Number:	14511751
Application Number:	14240395
Application Number:	13442861
Application Number:	13625148
Application Number:	15164555
Application Number:	16019411
Application Number:	15208580
Application Number:	15878353
Application Number:	15147838
Application Number:	16697131
Application Number:	17121971
Application Number:	16909272
Application Number:	16881376
Application Number:	16733570
Application Number:	16894222
Application Number:	16214029
Application Number:	16986817
Application Number:	17226386
Application Number:	17370731
Application Number:	17386787
Application Number:	17480673
Application Number:	17491946
Application Number:	17514667

**CORRESPONDENCE DATA**

Fax Number:

***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:** 3129932652  
**Email:** heather.poitras@lw.com  
**Correspondent Name:** HEATHER POITRAS  
**Address Line 1:** 330 N WABASH AVENUE  
**Address Line 2:** SUITE 2800  
**Address Line 4:** CHICAGO, ILLINOIS 60611

<b>ATTORNEY DOCKET NUMBER:</b>	042525-0203 HP
<b>NAME OF SUBMITTER:</b>	HEATHER POITRAS
<b>SIGNATURE:</b>	/hp/
<b>DATE SIGNED:</b>	11/23/2021

**Total Attachments: 8**

source=Ping (Refi) - Patent Security Agreement [Execution Version] (127968324.1)#page1.tif  
source=Ping (Refi) - Patent Security Agreement [Execution Version] (127968324.1)#page2.tif  
source=Ping (Refi) - Patent Security Agreement [Execution Version] (127968324.1)#page3.tif  
source=Ping (Refi) - Patent Security Agreement [Execution Version] (127968324.1)#page4.tif  
source=Ping (Refi) - Patent Security Agreement [Execution Version] (127968324.1)#page5.tif  
source=Ping (Refi) - Patent Security Agreement [Execution Version] (127968324.1)#page6.tif  
source=Ping (Refi) - Patent Security Agreement [Execution Version] (127968324.1)#page7.tif  
source=Ping (Refi) - Patent Security Agreement [Execution Version] (127968324.1)#page8.tif

PATENT SECURITY AGREEMENT

This Patent Security Agreement, dated as of November 23, 2021 (this “**Patent Security Agreement**”), is made by each signatory hereto listed under “Pledgors” (each a “**Pledgor**” and collectively, the “**Pledgors**”), in favor of Bank of America, N.A., in its capacity as collateral agent for the secured parties (in such capacity, together with its successors and permitted assigns, the “**Collateral Agent**”) pursuant to that certain Credit Agreement, dated as of November 23, 2021 (as amended, restated, amended and restated, supplemented, extended, waived, renewed, replaced, refinanced or otherwise modified from time to time, the “**Credit Agreement**”), by and among Ping Identity Corporation, a Delaware corporation (“**Borrower**”), Roaring Fork Intermediate, LLC, a Delaware limited liability company (“**Holdings**”), the other Credit Parties from time to time party thereto, the lenders and issuing banks from time to time party thereto and the several agents party thereto, including the Collateral Agent.

W I T N E S S E T H:

WHEREAS, the Pledgors are party to a Security Agreement of even date with the Credit Agreement (as amended, restated, amended and restated, supplemented, waived, renewed, replaced or otherwise modified from time to time, the “**Security Agreement**”) in favor of the Collateral Agent pursuant to which the Pledgors are required to execute and deliver this Patent Security Agreement.

NOW, THEREFORE, in consideration of the premises and to induce the Collateral Agent, for the benefit of the Secured Parties, to enter into the Credit Agreement, each Pledgor hereby agrees with the Collateral Agent as follows:

SECTION 1. Defined Terms. Unless otherwise defined herein, terms defined in the Security Agreement and used herein have the meaning given to them in the Security Agreement, or if not defined therein, in the Credit Agreement.

SECTION 2. Grant of Security Interest in Patent Collateral. As security for the payment or performance, as the case may be, in full of the Secured Obligations, each Pledgor hereby pledges and grants to the Collateral Agent for the benefit of the Secured Parties a Lien on and security interest in all of the right, title and interest of such Pledgor in, to and under all the following to the extent constituting Pledged Collateral, and in each case excluding Excluded Property (collectively, the “**Patent Collateral**”):

(a) all United States issued patents and patent applications listed on Schedule 1 attached hereto; and

(b) all Proceeds of any and all of the foregoing.

SECTION 3. Security Agreement. The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interest granted to the Collateral Agent pursuant to the Security Agreement, and the Pledgors hereby acknowledge and affirm that the rights and remedies of the Collateral Agent with respect to the security interest in the Patent Collateral made and granted hereby are more fully set

forth in the Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event that any provision of this Patent Security Agreement is deemed to conflict with the Security Agreement, the provisions of the Security Agreement shall control.

SECTION 4. Recordation. Each Pledgor authorizes and requests that the Commissioner for Patents and any other applicable government officer record this Patent Security Agreement.

SECTION 5. Termination. This Patent Security Agreement shall terminate and the Lien on and security interest in the Patent Collateral shall be released upon the Payment in Full of the Secured Obligations. Upon the termination of this Patent Security Agreement, the Collateral Agent shall execute all documents, make all filings, take all other actions reasonably requested by the Pledgors to evidence and record the release of the Lien on and security interests in the Patent Collateral granted herein.

SECTION 6. Counterparts. This Patent Security Agreement may be executed in any number of counterparts, all of which shall constitute one and the same instrument, and any party hereto may execute this Patent Security Agreement by signing and delivering one or more counterparts. Delivery of an executed counterpart of this Patent Security Agreement by facsimile or other electronic means shall be effective as delivery of a manually executed counterpart of this Patent Security Agreement.

SECTION 7. Governing Law. This Patent Security Agreement shall be construed in accordance with and governed by the law of the State of New York. The terms of Section 10.09 and Section 10.10 of the Credit Agreement are incorporated herein mutatis mutandis.

[Remainder of this page intentionally left blank]

IN WITNESS WHEREOF, the Pledgor has caused this Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

**PLEDGOR:**

**PING IDENTITY CORPORATION,**  
a Delaware corporation

By \_\_\_\_\_

Name: Andre Durand

Title: Chief Executive Officer

[Signature Page to Patent Security Agreement]

Accepted and Agreed:

**BANK OF AMERICA, N.A.,**  
as Collateral Agent

By:

  
Name: Mary Lawrence  
Title: AVP, Agency Management Officer

[Signature Page to Patent Security Agreement]

SCHEDULE 1  
to  
PATENT SECURITY AGREEMENT

UNITED STATES ISSUED PATENTS AND PATENT APPLICATIONS

United States Issued Patents:

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
Ping Identity Corporation	Blockchain id connect	16656477	10/17/2019	10979227	4/13/2021	Issued
Ping Identity Corporation	Devices and methods for threat-based authentication for access to computing resources	14801203	7/16/2015	9787723	10/10/2017	Issued
Ping Identity Corporation	Electronic identification verification methods and systems	15890333	2/6/2018	10498541	12/3/2019	Issued
Ping Identity Corporation	Electronic identification verification methods and systems with storage of certification records to a side chain	15893479	2/9/2018	10498542	12/3/2019	Issued
Ping Identity Corporation	Fallback identity authentication techniques	14703189	5/4/2015	9781105	10/3/2017	Issued
Ping Identity Corporation	Identity management service using a blockchain providing certifying transactions between devices	15640795	7/3/2017	10657532	5/19/2020	Issued
Ping Identity Corporation	Identity management service using a blockchain providing certifying transactions between devices	15146881	5/4/2016	9722790	8/1/2017	Issued
Ping Identity Corporation	Identity management service using a blockchain providing identity transactions between devices	15146872	5/4/2016	10007913	6/26/2018	Issued
Ping Identity Corporation	Large data transfer using visual codes with feedback confirmation	16697110	11/26/2019	11062106	7/13/2021	Issued
Ping Identity Corporation	Large data transfer using visual codes with feedback confirmation	15784093	10/14/2017	10509932	12/17/2019	Issued
Ping Identity Corporation	Method and system for authenticated login using static or dynamic codes	16227632	12/20/2018	11134075	9/28/2021	Issued



Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
Ping Identity Corporation	Method and system for authenticated login using static or dynamic codes	15449902	3/3/2017	10587609	3/10/2020	Issued
Ping Identity Corporation	Method, server and system for criteria-based assured replication	14265247	4/29/2014	10776384	9/15/2020	Issued
Ping Identity Corporation	Method, system and apparatus for synchronizing changes in a directory service	15181015	6/13/2016	9959286	5/1/2018	Issued
Ping Identity Corporation	Method, system and apparatus for synchronizing changes in a directory service	13326163	12/14/2011	9367560	6/14/2016	Issued
Ping Identity Corporation	Methods and apparatus for analyzing sequences of application programming interface traffic to identify potential malicious actions	16158836	10/12/2018	10699010	6/30/2020	Issued
Ping Identity Corporation	Methods and apparatus for delegated authentication token retrieval	14593457	1/9/2015	9407622	8/2/2016	Issued
Ping Identity Corporation	Methods and apparatus for delegated authentication token retrieval	13544565	7/9/2012	8856887	10/7/2014	Issued
Ping Identity Corporation	Methods and apparatus for increased security in issuing tokens	13737525	1/9/2013	8615794	12/24/2013	Issued
Ping Identity Corporation	Methods and apparatus for preprovisioning authentication tokens to mobile applications	13544553	7/9/2012	8473749	6/25/2013	Issued
Ping Identity Corporation	Methods and apparatus for selecting an authentication mode at time of issuance of an access token	13774653	2/22/2013	8613055	12/17/2013	Issued
Ping Identity Corporation	Methods and systems for api deception environment and api traffic control and security	16788059	2/11/2020	11075885	7/27/2021	Issued
Ping Identity Corporation	Methods and systems for api deception environment and api traffic control and security	15792850	10/25/2017	10587580	3/10/2020	Issued
Ping Identity Corporation	Methods and systems for api proxy based adaptive security	16050915	7/31/2018	10666621	5/26/2020	Issued
Ping Identity Corporation	Methods and systems for api proxy based adaptive security	15164587	5/25/2016	10193867	1/29/2019	Issued

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
Ping Identity Corporation	Methods and systems for creating and recovering accounts using dynamic passwords	16656459	10/17/2019	11082221	8/3/2021	Issued
Ping Identity Corporation	Methods and systems for deep learning based api traffic security	15793671	10/25/2017	10681012	6/9/2020	Issued
Ping Identity Corporation	Scalable proxy clusters	16686885	11/18/2019	11140135	10/5/2021	Issued
Ping Identity Corporation	Scalable proxy clusters	15164512	5/25/2016	10701037	6/30/2020	Issued
Ping Identity Corporation	Scalable proxy clusters	16050958	7/31/2018	10484337	11/19/2019	Issued
Ping Identity Corporation	System and method for performing a secure transaction	14118232	5/16/2012	9830594	11/28/2017	Issued
Ping Identity Corporation	System and method for secure transaction process via mobile device	14511751	10/10/2014	10108963	10/23/2018	Issued
Ping Identity Corporation	System and method for secure transaction process via mobile device	14240395	8/26/2012	9886688	2/6/2018	Issued
Ping Identity Corporation	System and method for secure transaction process via mobile device	13442861	4/10/2012	8346672	1/1/2013	Issued
Ping Identity Corporation	System and method for transaction security responsive to a signed authentication	13625148	9/24/2012	9098850	8/4/2015	Issued
Ping Identity Corporation	Systems and methods for api routing and security	15164555	5/25/2016	10834054	11/10/2020	Issued
Ping Identity Corporation	Transferring data files using a series of visual codes	16019411	6/26/2018	10740584	8/11/2020	Issued
Ping Identity Corporation	Transferring data files using a series of visual codes	15208580	7/12/2016	10007826	6/26/2018	Issued
Ping Identity Corporation	User identification management system and method	15878353	1/23/2018	10341123	7/2/2019	Issued
Ping Identity Corporation	User identification management system and method	15147838	5/5/2016	9876646	1/23/2018	Issued

United States Patent Applications:

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
Ping Identity Corporation	Electronic identification verification methods and systems with storage of certification records to a side chain	16697131	11/26/2019	--	--	Pending (Allowed)
Ping Identity Corporation	Identity management service using a blockchain providing certifying transactions between devices	17121971	12/15/2020	--	--	Pending
Ping Identity Corporation	Methods and apparatus for analyzing sequences of application programming interface traffic to identify potential malicious actions	16909272	6/23/2020	--	--	Pending (Allowed)
Ping Identity Corporation	Methods and systems for api proxy based adaptive security	16881376	5/22/2020	--	--	Pending
Ping Identity Corporation	Methods and systems for data traffic based adaptive security	16733570	1/3/2020	--	--	Pending
Ping Identity Corporation	Methods and systems for deep learning based api traffic security	16894222	6/5/2020	--	--	Pending
Ping Identity Corporation	Methods and systems for recovering data using dynamic passwords	16214029	12/7/2018	--	--	Pending
Ping Identity Corporation	Transferring data files using a series of visual codes	16986817	8/6/2020	--	--	Pending (Allowed)
Ping Identity Corporation	--	17226386	4/9/2021	--	--	Pending (Unpublished)
Ping Identity Corporation	--	17370731	7/8/2021	--	--	Pending (Unpublished)
Ping Identity Corporation	--	17386787	7/28/2021	--	--	Pending (Unpublished)
Ping Identity Corporation	--	17480673	9/21/2021	--	--	Pending (Unpublished)
Ping Identity Corporation	--	17491946	10/1/2021	--	--	Pending (Unpublished)
Ping Identity Corporation	--	17514667	10/29/2021	--	--	Pending (Unpublished)