

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
Chao Shen	08/06/2019
Kailai Shao	08/08/2019
Xuming Lu	08/08/2019
RECEIVING PARTY DATA	
Name:	ALIBABA GROUP HOLDING LIMITED
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PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	16390287
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SIGNATURE:	/Sarah Nagle/
DATE SIGNED:	08/13/2019
Total Attachments: 4	
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ASSIGNMENT and CONFIRMATION

For valuable consideration, the receipt of which we acknowledge, and intending to be bound legally, we, CHAO SHEN, KAILAI SHAO, and XUMING LU, each individually assign to ALIBABA GROUP HOLDING LIMITED, a corporation formed under the laws of Cayman Islands and having a principal place of business at Fourth Floor, One Capital Place, P.O. Box 847, George Town, Grand Cayman, Cayman Islands, KY1-1103, and its successors, transferees, and assignees (collectively the "Assignee"), all of our individual and joint right, title, and interest throughout the world in the invention(s) (the "Subject Matter") of International Patent Application, PCT/CN2018/118523, filed November 30, 2018 that names us as inventors (the "International Patent Application") and of a patent application titled "UTILIZING NONCE TABLE TO RESOLVE CONCURRENT BLOCKCHAIN TRANSACTION FAILURE," that claims priority to the International Patent Application and was or will be filed in the United States Patent and Trademark Office on April 22, 2019, as application 16/390,287 (the "Application") which also names us as inventors.

The Subject Matter of the Application was developed as part of, and the forgoing assignment occurred by operation of, employment by each of us with Ant Small and Micro Financial Services Group Co., Ltd. directly or by a subsidiary of Ant Financial (collectively "Ant Financial"), a limited liability company organized under the Laws of the PRC and having a principal place of business at 26/F Tower One, Times Square, 1 Matheson Street, Causeway Bay, Hong Kong, and agreements with Assignee. Should any of us have any remaining interest, we hereby assign and transfer any right, title or interest we may have in said Subject Matter of the Application to Assignee.

This Assignment assigns, in addition to the Subject Matter of the Application, (a) the Application and all other applications that may be made for, and all patents, utility models, design registrations, and other rights of exclusion and inventors' certificates for, any of the Subject Matter (collectively the "Applications and Granted Rights") in every country or region and under every treaty or convention, (b) the right to claim priority based on and the benefit of the filing date of any of the Applications and Granted Rights under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other applicable treaties or conventions, and (c) the right to pursue, collect,

and retain in the Assignee's name or otherwise, damages and any other remedies arising from any past, present, or future infringement of the Subject Matter, the Applications and Granted Rights, and any other rights assigned by this Assignment.

We authorize the Assignee to apply for and pursue protection for any or all of the Subject Matter, the Applications and Granted Rights, and any other rights assigned by this Assignment in all countries, regions, and territories of the world, in our names or in the Assignee's name.

We represent and warrant that we have the right and power to make this Assignment and that we have not made and will not make any other assignment that conflicts with this Assignment.

We will communicate to the Assignee (or, at the request of the Assignee to other parties) all known facts in any form relating to the Subject Matter; will execute and provide all oaths and declarations, statements, testimony, assignments, powers of attorney, applications, and documents; and will perform all other lawful acts necessary or desirable to secure fully to the Assignee the rights, titles, and interests assigned by this Assignment.

chao shen
Chao Shen

Date: 2019.8.6

Witnessed by:

Signature: 张伟毅

Date: 2019.8.6

Print Name: Wei Yi Zhou

邵开朱
Kailai Shao

Date: 2019.8.8

Witnessed by:

Signature: 李淑华

Date: 2019.8.8

Print Name: Haifen Mao

Xuqing Lu

Date: 2019.8.8

Witnessed by:

Signature: [Signature]

Date: 2019.8.8

Print Name: Haifen Guan