504168537 01/09/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4215215

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
ARAVIND KALAIAH	12/22/2016
VIJAY ANAND R. KORTHIKANTI	12/20/2016
AMIR KHOSROWSHAHI	12/28/2016
TONY L. WERNER	12/20/2016

RECEIVING PARTY DATA

Name:	INTEL CORPORATION
Street Address:	2200 MISSION COLLEGE BOULEVARD
City:	SANTA CLARA
State/Country:	CALIFORNIA
Postal Code:	95054

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15395906

CORRESPONDENCE DATA

Fax Number: (972)226-4837

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: 2148231241

Email: joni@patcapgroup.com PATENT CAPITAL GROUP **Correspondent Name:**

Address Line 1: C/O CPA GLOBAL

Address Line 2: 900 SECOND AVENUE SOUTH, SUITE 600

Address Line 4: MINNEAPOLIS, MINNESOTA 55402

ATTORNEY DOCKET NUMBER:	P111251
NAME OF SUBMITTER:	JONI MEGUIRE
SIGNATURE:	/Joni MeGuire/
DATE SIGNED:	01/09/2017

Total Attachments: 8

source=P111251 Assignment#page1.tif source=P111251_Assignment#page2.tif

> **PATENT** REEL: 040893 FRAME: 0831



PATENT REEL: 040893 FRAME: 0832

ASSIGNMENT

In consideration of good and valuable consideration, the receipt of which is hereby acknowledged, we, the undersigned inventor(s):

Vijay Anand R. Korthikanti Aravind Kalaiah Tony L. Werner Amir Khosrowshahi

hereby sell, assign, and transfer to:

Intel Corporation

a corporation of Delaware, having a principal place of business at 2200 Mission College Boulevard, Santa Clara, California, 95054 USA ("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and improvements that are disclosed in the International application entitled:

DIMENSION SHUFFLING USING MATRIX PROCESSORS

(\mathbf{I},\mathbf{I})	iereby authorize and	d request any attorn	ey having approp	riate authority fro	m the assignee to	insert on the
des	ignated lines below,	, the filing date and a	application numb	er of said application	on when known.)	

which was filed onDecember 3	0, 2016
US COUNTRY or International Office	Application Number 15/395,906 and

which has been executed by the undersigned prior hereto or concurrently herewith on the date(s) indicated below,

and in and to said International application and all related applications (e.g. national phase applications, divisional applications, continuation applications, reexaminations, reissues, and the like) that have been or shall be filed in the United States and/or all foreign countries on said inventions and improvements, as well as in and to all rights of priority resulting from the filing of said International application;

agree that said Assignee may apply for and receive a patent or patents for said inventions and improvements in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all design, utility, divisional, continuing, continuation-in-part, substitute, renewal, reissue, and all other patent applications on any and all said inventions and improvements; execute all rightful oaths, assignments, powers of attorney, and other

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papers; communicate to said Assignee, its successors, assigns, and legal representatives all facts known to the undersigned relating to said inventions and improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or legal representatives in securing and maintaining proper patent protection for said inventions and improvements and for vesting title to said inventions and improvements, and all applications for patents and all patents on said improvements, in said Assignee, its successors, assigns, and legal representatives; and

covenant with said Assignce, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

Vijay Anand R. Korthikanti	Date Signed
A MA	12/22/16
Aravind Kalaiah	Date Signed
Tony L. Werner	Date Signed
Amir Khosrowshahi	Date Signed

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DIMENSION SHUFFLING USING MATRIX PROCESSORS

(I hereby authorize and request any attorney having appropriate authority from the assignee to insert on the designated lines below, the filing date and application number of said application when known.)

which was filed on December 30	0, 2016
US COUNTRY or International Office	Application Number 15/395,906 and

which has been executed by the undersigned prior hereto or concurrently herewith on the date(s) indicated below,

and in and to said International application and all related applications (e.g. national phase applications, divisional applications, continuation applications, reexaminations, reissues, and the like) that have been or shall be filed in the United States and/or all foreign countries on said inventions and improvements, as well as in and to all rights of priority resulting from the filing of said International application;

agree that said Assignee may apply for and receive a patent or patents for said inventions and improvements in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all design, utility, divisional, continuing, continuation-in-part, substitute, renewal, reissue, and all other patent applications on any and all said inventions and improvements; execute all rightful oaths, assignments, powers of attorney, and other

Page 1 of 2

papers; communicate to said Assignee, its successors, assigns, and legal representatives all facts known to the undersigned relating to said inventions and improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or legal representatives in securing and maintaining proper patent protection for said inventions and improvements and for vesting title to said inventions and improvements, and all applications for patents and all patents on said improvements, in said Assignee, its successors, assigns, and legal representatives; and

covenant with said Assignee, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

	20 Dec 2016
Vijay-Antoid R. Korthikanti	Date Signed
Aravind Kalaiah	Date Signed
Tony L. Werner	Date Signed
Amir Khosrowshahi	Date Signed

ASSIGNMENT

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(I hereby authorize and request any attorney having appropriate authority from the assignee to insert of	on the
designated lines below, the filing date and application number of said application when known.)	

which was filed on <u>December 30, 2</u>	2016	as	
US COUNTRY or International Office	Application Number	15/395,906	_ and

which has been executed by the undersigned prior hereto or concurrently herewith on the date(s) indicated below,

and in and to said International application and all related applications (e.g. national phase applications, divisional applications, continuation applications, reexaminations, reissues, and the like) that have been or shall be filed in the United States and/or all foreign countries on said inventions and improvements, as well as in and to all rights of priority resulting from the filing of said International application;

agree that said Assignee may apply for and receive a patent or patents for said inventions and improvements in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all design, utility, divisional, continuing, continuation-in-part, substitute, renewal, reissue, and all other patent applications on any and all said inventions and improvements; execute all rightful oaths, assignments, powers of attorney, and other

PATENT REEL: 040893 FRAME: 0837 papers; communicate to said Assignee, its successors, assigns, and legal representatives all facts known to the undersigned relating to said inventions and improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or legal representatives in securing and maintaining proper patent protection for said inventions and improvements and for vesting title to said inventions and improvements, and all applications for patents and all patents on said improvements, in said Assignee, its successors, assigns, and legal representatives; and

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Vijay Anand R. Korthikanti	Date Signed
Aravind Kalaiah	Date Signed
Tony L. Werner	Date Signed
in lowerest sme	12/28/16
Amir Khosrowshahi	Date Signed

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which was filed on <u>December 30</u>	0, 2016	28	
US COUNTRY or International Office	Application Number	15/395,906	and

which has been executed by the undersigned prior hereto or concurrently herewith on the date(s) indicated below.

and in and to said International application and all related applications (e.g. national phase applications, divisional applications, continuation applications, reexaminations, reissues, and the like) that have been or shall be filed in the United States and/or all foreign countries on said inventions and improvements, as well as in and to all rights of priority resulting from the filing of said International application:

agree that said Assignee may apply for and receive a patent or patents for said inventions and improvements in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all design, utility, divisional, continuing, continuation-in-part, substitute, renewal, reissue, and all other patent applications on any and all said inventions and improvements; execute all rightful oaths, assignments, powers of attorney, and other

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REEL: 040893 FRAME: 0839

papers; communicate to said Assignee, its successors, assigns, and legal representatives all facts known to the undersigned relating to said inventions and improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or legal representatives in securing and maintaining proper patent protection for said inventions and improvements and for vesting title to said inventions and improvements, and all applications for patents and all patents on said improvements, in said Assignee, its successors, assigns, and legal representatives; and

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Vijay Anand R. Korthikanti	Date Signed
Aravind Kalaiah	Date Signed
Tony L. Werner	<u>に/z///</u> Date Signed
Amir Khosrowshahi	Date Signed