

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5875609

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
BEN ASHBAUGH	08/29/2019
JONATHAN PEARCE	05/09/2019
MURALI RAMADOSS	11/06/2019
VIKRANTH VEMULAPALLI	08/29/2019
WILLIAM B. SADLER	05/01/2019
SUNGYE KIM	05/02/2019
MARIAN ALIN PETRE	04/30/2019
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	INTEL CORPORATION
<b>Street Address:</b>	2200 MISSION COLLEGE BOULEVARD
<b>City:</b>	SANTA CLARA
<b>State/Country:</b>	CALIFORNIA
<b>Postal Code:</b>	95054
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16355130
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	
<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>	
<b>Email:</b>	intel-paralegals@jwmhlaw.com
<b>Correspondent Name:</b>	JAFFERY WATSON MENDONSA & HAMILTON LLP
<b>Address Line 1:</b>	7501 VILLAGE SQUARE DRIVE, SUITE 206
<b>Address Line 4:</b>	CASLTE PINES, COLORADO 80108
<b>ATTORNEY DOCKET NUMBER:</b>	AB9938-US
<b>NAME OF SUBMITTER:</b>	KRISTA BOWEN
<b>SIGNATURE:</b>	/Krista Bowen/
<b>DATE SIGNED:</b>	12/18/2019
<b>Total Attachments: 8</b>	

source=AB9938US\_Assignment#page1.tif  
source=AB9938US\_Assignment#page2.tif  
source=AB9938US\_Assignment#page3.tif  
source=AB9938US\_Assignment#page4.tif  
source=AB9938US\_Assignment#page5.tif  
source=AB9938US\_Assignment#page6.tif  
source=AB9938US\_Assignment#page7.tif  
source=AB9938US\_Assignment#page8.tif

## **ASSIGNMENT**

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

**Ben Ashbaugh, Jonathan Pearce, Murali Ramadoss, Vikranth Vemulapalli  
William Sadler, Sungye Kim and Marian Alin Petre**

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 other countries, in and to any and all inventions and improvements that are disclosed in the application for the patent entitled:

### **THREAD GROUP SCHEDULING FOR GRAPHICS PROCESSING**

(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 March 15, 2019 as  
United States Application Number 16/355,130 and  
COUNTRY or International Office

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

and in and to said application and all Additional Applications, and all other patent applications that have been or shall be filed in the United States and all other countries and international filing offices on any of said inventions and improvements; and in and to all original and reissued patents that have been or shall be issued in the United States and all other countries and international filing offices on said inventions and improvements; and in and to all rights of priority resulting from the filing of said applications; as used herein "Additional Applications" includes but is not limited to design, utility, utility model, divisional, continuing, continuation-in-part, substitute, renewal, reissue, and national phase applications on said inventions and improvements;

and 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 Additional Applications, and all other patent applications on any and all said inventions and improvements; execute all rightful oaths, assignments, powers of attorney, and other 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.



**Ben Ashbaugh**

August 29, 2019

Date signed

**Jonathan Pearce**

Date signed

**Murali Ramadoss**

Date signed

**Vikranth Vemulapalli**

Date signed

**William Sadler**

Date signed

**Sungye Kim**

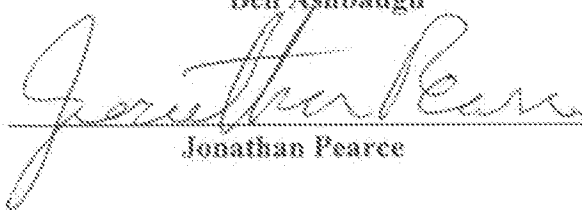
Date signed

**Marian Alin Petre**

Date signed

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.

\_\_\_\_\_  
Ben Ashbaugh  
  
\_\_\_\_\_  
Jonathan Pearce

\_\_\_\_\_  
Date signed  
5/9/19  
\_\_\_\_\_  
Date signed

\_\_\_\_\_  
Murali Ramadoss

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
Vikranth Vemulapalli

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
William Sadler

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
Sungye Kim

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
Marian Alin Petre

\_\_\_\_\_  
Date signed

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

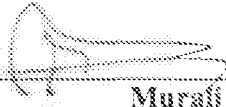
covenant with said Assignee, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is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

\_\_\_\_\_  
**Ben Ashbaugh**

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
**Jonathan Pearce**

\_\_\_\_\_  
Date signed

  
\_\_\_\_\_

**Murali Ramadoss**

\_\_\_\_\_  
11/6/19  
Date signed

\_\_\_\_\_  
**Vikranth Vemulapalli**

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
**William B. Sadler**

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
**Sungye Kim**

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
**Marian Alin Petre**

\_\_\_\_\_  
Date signed

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.

\_\_\_\_\_  
**Ben Ashbaugh**

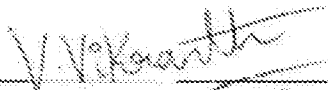
\_\_\_\_\_  
Date signed

\_\_\_\_\_  
**Jonathan Pearce**

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
**Murali Ramadoss**

\_\_\_\_\_  
Date signed

  
\_\_\_\_\_  
**Vikranth Vemulapalli**

  
\_\_\_\_\_  
Date signed

\_\_\_\_\_  
**William B. Sadler**

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
**Sungye Kim**

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
**Marian Alin Petre**

\_\_\_\_\_  
Date signed

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.

\_\_\_\_\_  
**Ben Ashbaugh**

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
**Jonathan Pearce**

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
**Murali Ramadoss**

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
**Vikranth Vemulapalli**

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
*William B. Sadler*  
**William B. Sadler**

\_\_\_\_\_  
*5/1/2019*  
Date signed

\_\_\_\_\_  
**Sungye Kim**

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
**Marian Alin Petre**

\_\_\_\_\_  
Date signed

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.

\_\_\_\_\_  
**Ben Ashbaugh**

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
**Jonathan Pearce**

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
**Murali Ramadoss**

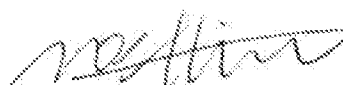
\_\_\_\_\_  
Date signed

\_\_\_\_\_  
**Vikranth Vemulapalli**

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
**William Sadler**

\_\_\_\_\_  
Date signed

  
\_\_\_\_\_  
**Sungye Kim**

  
\_\_\_\_\_  
Date signed

\_\_\_\_\_  
**Marian Alin Petre**

\_\_\_\_\_  
Date signed

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.

\_\_\_\_\_  
Ben Ashbaugh

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
Jonathan Pearce

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
Murali Ramadoss

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
Vikranth Vemulapalli

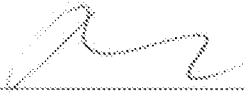
\_\_\_\_\_  
Date signed

\_\_\_\_\_  
William Sadler

\_\_\_\_\_  
Date signed

\_\_\_\_\_  
Susgye Kim

\_\_\_\_\_  
Date signed

  
\_\_\_\_\_  
Marian Alin Petre

09/30/2019  
\_\_\_\_\_  
Date signed