# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT4979127

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
PEDRO ALEJANDRO CASTILLO CASTILLO	05/23/2018
HONG ZHAO	05/17/2018
MARK-JOHN BRUWER	05/23/2018
ASHOK RAO	05/23/2018

## **RECEIVING PARTY DATA**

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#### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15967099

### **CORRESPONDENCE DATA**

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ATTORNEY DOCKET NUMBER:	1086.2064-000
NAME OF SUBMITTER:	DIANA DECARO
SIGNATURE:	/DIANA DECARO/
DATE SIGNED:	05/25/2018

## **Total Attachments: 5**

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> **PATENT REEL: 045905 FRAME: 0186** 504932381

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PATENT REEL: 045905 FRAME: 0187

Joint

### **ASSIGNMENT**

WHEREAS, we, Pedro Alejandro Castillo Castillo, Hong Zhao, Mark-John Bruwer and Ashok Rao, have invented a certain improvement in Computer System And Method For Automated Batch Data Alignment In Batch Process Modeling, Monitoring And Control described in an application for Patent,

	the specification of which is about to be filed in the United States Patent Office (use for utility (37 CFR § 1.53(b)) and design filings only);
	is about to be filed in the United States Patent Office as a Provisional Application;
$\boxtimes$	the specification of which is United States Application No. 15/967,099, filed April 30, 2018;
	the specification of which is a Patent Cooperation Treaty Application, International Application No. [ ], filed [ ], which designates the United States of America [and is assigned United States Application No. [ ]];
	which was patented under United States Patent No. [ ].

WHEREAS, Aspen Technology, Inc. (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the State of Delaware, and having a usual place of business at 20 Crosby Drive, Bedford, Massachusetts 01730 desires to confirm its interest therein in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue on said invention; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made: we hereby convey all rights arising under or pursuant to any and all international agreements. treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for any and all related provisional and nonprovisional, international and national phase applications, including any and all substitution, reissue, divisional, continuation, and continuation-in-part applications, and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein; we hereby expressly authorize the filing of an International Patent Application under the

Patent Cooperation Treaty which corresponds to and claims the priority of the above-identified application;

AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of any future applications including substitution, reissue, divisional or continuation, continuation-in-part applications, and all related provisional and nonprovisional, international and national phase applications, and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

AND, we do hereby authorize and request each Patent Office and the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said invention to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals the date set forth below.

Inventor's Signature:	
	andro Castillo Castillo
State/Commonwealth of TEXAS County of HAGUS	
On this 2314 day of MAY public, personally appeared Pedro Alejandr	2018, before me, the undersigned notary o Castillo Castillo,
personally known to me, or	
proved to me through satisfactory e	vidence of identification, which was
to be the person whose name was signed or acknowledged that he/she signed the forego	
(SEAL)	Notary Public Jaura Schaub LAURA J. SCHAUB (print name)
LAURA J SCHAUB  Notary Public, State of Texas  Comm. Expires 10-29-2018  Notary ID 1483184	My Commission expires /0/29/2018

Inventor's Signature:
Hong Zhao
State/Commonwealth of_TEXAS County of_HARRIS
On this
personally known to me, or
proved to me through satisfactory evidence of identification, which was
to be the person whose name was signed on the foregoing instrument in my presence, and acknowledged that he/she signed the foregoing instrument as his/her free act and deed.  (SEAL)  LAURA J SCHAUB Notary Public July Schaub LAURA J. SCHAUB Notary Public, State of Texas Comm. Expires 10-29-2018 Notary ID 1483184  My Commission expires 10 1 29 1 2018
Inventor's Signature: MBBruwer
Mark-John Bruwer  State/Commonwealth of TEXAS  County of HARRIS
On this 23nd day of MAY 20/8, before me, the undersigned notary public, personally appeared Mark-John Bruwer,
personally known to me, or
proved to me through satisfactory evidence of identification, which was
to be the person whose name was signed on the foregoing instrument in my presence, and acknowledged that he/she signed the foregoing instrument as his/her free act and deed.  (SEAL)  LAURA J SCHAUB Notary Public Courte Courte Courte Courte Comm. Expires 10-29-2018 Notary ID 1483184  Notary ID 1483184

Inventor's Signature: Whok Pac
Ashok Rao  State/Commonwealth  of TEXAS  County of HARCIS
On this 23nd day of MAY 2018, before me, the undersigned notary public, personally appeared Ashok Rao,
personally known to me, or
proved to me through satisfactory evidence of identification, which was
to be the person whose name was signed on the foregoing instrument in my presence, and acknowledged that he/she signed the foregoing instrument as his/her free act and deed.
(SEAL)  LAURA J SCHAUB  Notary Public, State of Texas  Comm. Expires 10-29-2018  Notary ID 1483184  My Commission expires 10 129 12018