

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5743621

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
FRUSTUM INC.	01/01/2019
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	PTC INC.
<b>Street Address:</b>	121 SEAPORT BOULEVARD
<b>City:</b>	BOSTON
<b>State/Country:</b>	MASSACHUSETTS
<b>Postal Code:</b>	02210
<b>PROPERTY NUMBERS Total: 5</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	62145350
<b>Application Number:</b>	15079815
<b>Application Number:</b>	62738714
<b>PCT Number:</b>	US2016024536
<b>Application Number:</b>	16056151
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(206)359-8000
<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>Phone:</b>	206-359-7198
<b>Email:</b>	patentprocurement@perkinscoie.com
<b>Correspondent Name:</b>	PERKINS COIE LLP
<b>Address Line 1:</b>	P.O. BOX 1247
<b>Address Line 2:</b>	PATENT PROCUREMENT
<b>Address Line 4:</b>	SEATTLE, WASHINGTON 98111-1247
<b>ATTORNEY DOCKET NUMBER:</b>	132601
<b>NAME OF SUBMITTER:</b>	TRICIA WILLIAMS
<b>SIGNATURE:</b>	/Tricia Williams/
<b>DATE SIGNED:</b>	09/27/2019
<b>Total Attachments: 3</b>	

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## ASSIGNMENT

This assignment is made effective as of 1 January 2019.

*WHEREAS, Frustum Inc., of 175 Varick Street, New York, New York 10014*, a corporation of the State of Delaware, (hereinafter "ASSIGNOR") is the assignee of the full and exclusive right, title and interest in the inventions and applications disclosed on Schedule 1; and

*WHEREAS, PTC Inc., of 121 Seaport Boulevard, Boston, Massachusetts 02210*, a corporation of the State of Massachusetts, (hereinafter "ASSIGNEE") is desirous of acquiring the full and exclusive right, title and interest in and to the inventions, the applications, and any and all Letters Patent or similar legal protection, to be obtained therefore in the United States and its territorial possessions and in any and all foreign countries;

*NOW THEREFORE*, in view of good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, as of the Effective Date ASSIGNOR has sold, assigned, and transferred, and by these presents hereby sells, assigns, and transfers, unto ASSIGNEE, its successors and assigns, the full and exclusive right, title, and interest in and to (a) the above-identified invention or inventions and all improvements and modifications thereof, (b) the above-identified applications and all other applications for Letters Patent of the United States and countries foreign thereto for the above-identified invention or inventions and all improvements and modifications thereof, (c) all Letters Patent which may issue from said applications in the United States and countries foreign thereto, (d) all divisions, continuations, reissues, and extensions of said applications and all Letters Patent issuing therefrom, and (e) the right to claim for any of said applications the full benefits and priority rights under the Paris Convention and any other international agreement to which the United States adheres; such right, title, and interest to be held and enjoyed by ASSIGNEE, its successors and assigns, to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by ASSIGNOR had this Assignment not been made.

*ASSIGNOR HEREBY AUTHORIZES AND REQUESTS* the Commissioner of Patents and Trademarks to issue said Letters Patent to ASSIGNEE as assignee of the entire interest, for the sole use and benefit of ASSIGNEE, its successors and assigns.

*ASSIGNOR HEREBY AGREES* (a) to communicate to ASSIGNEE, its successors and assigns, or their representatives or agents, all facts and information known or available to ASSIGNOR respecting said invention or inventions, improvements, and modifications including evidence for interference, reexamination, reissue, opposition, revocation, extension, or infringement purposes or other legal, judicial, or administrative proceedings, whenever requested by ASSIGNEE; (b) to testify in person or by affidavit as required by ASSIGNEE, its successors and assigns, in any such proceeding in the United States or a country foreign thereto; (c) to execute and deliver, upon request by ASSIGNEE, all lawful papers including, but not limited to, original, divisional, continuation, and reissue applications, renewals, assignments, powers of attorney, oaths, affidavits, declarations, depositions; and (d) to provide all reasonable assistance to ASSIGNEE, its successors and assigns, in obtaining and enforcing proper title in and protection for said invention or inventions, improvements, and modifications under the intellectual property laws of the United States and countries foreign thereto.

*ASSIGNOR HEREBY REPRESENTS AND WARRANTS* that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein,

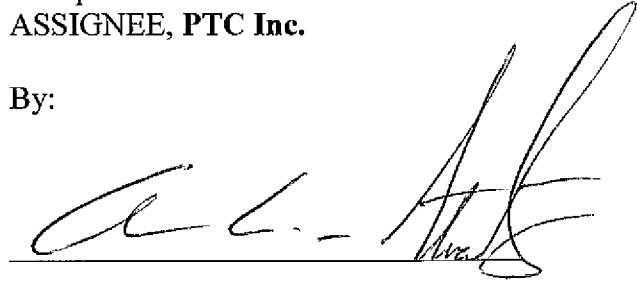
and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR, **Frustum Inc.**

Accepted:  
ASSIGNEE, **PTC Inc.**

By:

By:

A handwritten signature in cursive script, appearing to read "C. J. Frustum", written over a horizontal line.A handwritten signature in cursive script, appearing to read "A. L. Frustum", written over a horizontal line.

**Schedule 1**

<b>TITLE</b>	<b>COUNTRY</b>	<b>APPLICATION #</b>	<b>FILED</b>	<b>PATENT #</b>	<b>GRANTED</b>
GENERATING OPTIMIZED GEOMETRIES	Canada	2,982,074	Mar 28, 2016		
GENERATING OPTIMIZED GEOMETRIES	EPO	16777047.8	Mar 28, 2016		
GENERATING OPTIMIZED GEOMETRIES	US	62/145,350	Apr 9, 2015		
GENERATING OPTIMIZED GEOMETRIES	US	15/079,815	Mar 24, 2016	10042817	Aug 7, 2018
GENERATING OPTIMIZED GEOMETRIES	PCT	PCT/US16/24536	Mar 28, 2016		
OPTIMIZED TOPOLOGY GENERATION FOR MANUFACTURING SYSTEM AND METHOD	US	62/738,714	Sep 28, 2018		