PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT3794323

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
AB INITIO SOFTWARE LLC	07/16/2008

RECEIVING PARTY DATA

Name:	ARCHITECTURE LLC
Street Address:	201 SPRING STREET
City:	LEXINGTON
State/Country:	MASSACHUSETTS
Postal Code:	02421

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14519030

CORRESPONDENCE DATA

Fax Number:	(617)500-2499

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.

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ATTORNEY DOCKET NUMBER:	30040-A72004
NAME OF SUBMITTER:	CASSIE A. ZALESKI
SIGNATURE:	/Cassie A. Zaleski/
DATE SIGNED:	03/22/2016

Total Attachments: 8
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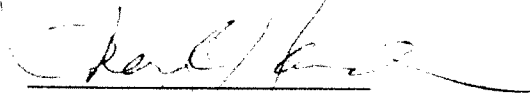# ASSIGNMENT OF TRADE SECRET, INVENTION & PATENT RIGHTS

Assignor: Ab Initio Software LLC, a Delaware limited liability company

Assignee: Architecture LLC, a Delaware limited liability company

1. The subject matter of this Assignment of Trade Secret, Invention & Patent Rights (the "Assignment") is the following Invention & Trade Secret Rights: (1) the patents and patent applications identified in attached Exhibit PATENT, the inventions embodied therein, and any and all domestic or foreign continuation, continuation-in-part, or divisional applications and reissue, correction, reexamination, or other patents, or certificates of invention, utility models, design registrations, and the like, that issue or derive priority therefrom or claim priority thereto, and (2) any and all inventions (whether or not patentable), trade secrets, and confidential information, whether tangible or intangible, developed by or on behalf of **Assignor** for use or potential use in its business, including (without limitation) all technical information, devices, formulae, methods, processes, techniques, know how, show how, designs, patterns, drawings, compilations, cost data, pricing, customer lists, vendor lists, employee lists, and computer programs (including source code) and related documentation.

2. For good and valuable consideration, the receipt and sufficiency of which is acknowledged by **Assignor**, **Assignor** hereby assigns to **Assignee** all of **Assignor's** worldwide rights, title, and interest (without reservation of any rights whatsoever) in and to (1) the Invention & Trade Secret Rights, (2) the right to claim priority based on the filing dates of any of the Invention & Trade Secret Rights, and (3) any claims (known or unknown, suspected or unsuspected) of any nature that **Assignor** has or may have against any entity for infringement or misappropriation of the Invention & Trade Secret Rights.

3. **Assignor** agrees to sign all lawful papers, make all rightful oaths, communicate to **Assignee** or its representatives all facts known to **Assignor** with respect to the Invention & Trade Secret Rights, cooperate with **Assignee** and its representatives, and generally do everything deemed necessary by **Assignee** to:
   a. complete and fulfill the terms of this Assignment;
   b. enable **Assignee**, at **Assignee's** expense, to apply for or prosecute any patent, invention right, or application for Invention & Trade Secret Rights, to maintain any application or issued patent for the Invention & Trade Secret Rights, and to record this Assignment, including executing separate or additional assignments in connection with such recordation or applications, and generally secure and/or perfect legal protection for the Invention & Trade Secret Rights;
   c. assist **Assignee**, at **Assignee's** expense, to apply for, obtain, and enforce legal protection for the Invention & Trade Secret Rights in all countries, including applying for protection of the Invention & Trade Secret Rights under any provisions of the International Convention for Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all similar agreements or treaties, whether in the name of **Assignor** or of **Assignee**;
   d. assist **Assignee**, at **Assignee's** expense, with respect to any action, suit, or other legal proceeding relating to enforcement or defense of any of the Invention & Trade Secret Rights, including obtaining evidence and testifying in any such legal proceeding (in any such legal proceeding, **Assignor** will be represented by the same legal counsel as **Assignee**).

4. Each examining, registration, or recording office or agency (including, without limitation, the United States Patent and Trademark Office) is hereby authorized by **Assignor** to deliver to **Assignee**, its attorneys, agents, successors or assigns, all official documents and communications as may be warranted by this Assignment.

5. **Assignor** grants to **Assignee** the power to insert on this Assignment any further identification when known which may be necessary or desirable in order to comply with the rules of any examining, registration, or recording office or agency for recordation of this Assignment.

Assignor: Ab Initio Software LLC, a Delaware limited liability company

By: _____

Title: _____CEO_____

Date: _____7/16/08_____

EXHIBIT PATENT

STATUS (filing date)	PATENT NO./SERIAL NO. (F&R Docket No.)	COUNTRY	TITLE
ISSUED	7,167,850/10/268,509 (068001)	US	Startup And Control Of Graph-Based Computation
		EU	Startup And Control Of Graph-Based Computation
ISSUED		JP	Startup And Control Of Graph-Based Computation
FILED	(068001) 2591076	CA	Startup And Control Of Graph-Based Computation
FILED	2007202792 (068001)	AU	Startup And Control Of Graph-Based Computation
ISSUED	(068001)	AU	Startup And Control Of Graph-Based Computation
ISSUED	(068001)	UK	Startup And Control Of Graph-Based Computation
ISSUED	(068001)	IN	Startup And Control Of Graph-Based Computation
ISSUED	(068001)	IN	Startup And Control Of Graph-Based Computation
ISSUED	6,654,907/09/731,234 (057001 CIP of 47001)	US	Continuous Flow Compute Point Based Data Processing
ISSUED	7,164,422/09/627,252 (05001)	US	Parameterized Graphs With Conditional Components
ISSUED	1055978 (05001)	EU	Parameterized Graphs With Conditional Components
ISSUED	2002-515753 (05001)	JP	Parameterized Graphs With Conditional Components
ISSUED	2006-302306 (05001)	JP	Parameterized Graphs With Conditional Components
FILED	2417194 (05001)	CA	Parameterized Graphs With Conditional Components
ISSUED	169MUMNP 2003 (05001)	IN	Parameterized Graphs With Conditional Components
ISSUED	6,584,581/09/608,995 (047001)	US	Continuous Flow Checkpointing Data Processing
ISSUED	992391.3 (047001)	EU	Continuous Flow Checkpointing Data Processing
ISSUED	2001-544442 (047001)	JP	Continuous Flow Checkpointing Data Processing
ISSUED	2392300 (047001)	CA	Continuous Flow Checkpointing Data Processing
ISSUED	3108527.2 (047001)	UK	Continuous Flow Checkpointing Data Processing
ISSUED	7,047,232/09/229,849 (030001)	US	Parallelizing Applications Of Script-Driven Applications
FILED	904353 (030001)	EU	Parallelizing Applications Of Script-Driven Applications
ISSUED	2000-594025 (030001)	JP	Parallelizing Applications Of Script-Driven Applications
ISSUED	2006-062272 (030001)	JP	Parallelizing Applications Of Script-Driven Applications
ISSUED	2360286 (030001)	CA	Parallelizing Applications Of Script-Driven Applications
ISSUED	6,665,862/09/915,185 (02002 CON OF 02001)	US	Method For Analyzing Capacity Of Parallel Processing Systems
ISSUED	6,266,804/08/997,142 (020001)	US	Method For Analyzing Capacity Of Parallel Processing Systems
ISSUED	980654811 (020001)	EU	Method For Analyzing Capacity Of Parallel Processing Systems
ISSUED	2000-525912 (020001)	JP	Method For Analyzing Capacity Of Parallel Processing Systems

STATUS (filing date)	PATENT NO./SERIAL NO. (F&R Docket No.)	COUNTRY	TITLE
ISSUED	(9E888†)	CA	Method For Analyzing Capacity Of Parallel Processing Sys~
ISSUED	6,088,716/08/847,909 (010001)	US	Method For Preventing Buffer Deadlock In Dataflow Computations
ISSUED		EU	Method For Preventing Buffer Deadlock In Dataflow Computations
ISSUED		JP	Method For Preventing Buffer Deadlock In Dataflow Computations
ISSUED		CA	Method For Preventing Buffer Deadlock In Dataflow Computations
ISSUED	5,857,204/08/678,398 (008001)	US	A Method For Restoring The State Of A Set Of Files
ISSUED		EU	A Method For Restoring The State Of A Set Of Files
FILED		JP	A Method For Restoring The State Of A Set Of Files
ISSUED		CA	A Method For Restoring The State Of A Set Of Files
ISSUED	5,897,638/08/876,734 (006001)	US	A Parallel Virtual File System
ISSUED		EU	A Parallel Virtual File System
ISSUED		JP	A Parallel Virtual File System
ISSUED		CA	A Parallel Virtual File System
ISSUED	5,712,971/08/570,724 (004001)	US	Methods And Systems For Reconstructing The State Of A Computation
ISSUED		EU	Methods And Systems For Reconstructing The State Of A Computation
ISSUED		JP	Methods And Systems For Reconstructing The State Of A Computation
ISSUED		JP	Methods And Systems For Reconstructing The State Of A Computation
ISSUED		CA	Methods And Systems For Reconstructing The State Of A Computation
ISSUED	5,966,072/08/678,411 (003001)	US	Executing Computations Expressed As Graphs
ISSUED		EU	Executing Computations Expressed As Graphs
ISSUED		JP	Executing Computations Expressed As Graphs
ISSUED		CA	Executing Computations Expressed As Graphs
ISSUED	5,819,021/08/570585 (002001)	US	Overpartitioning System And Method For Increasing Checkpoints In Component-Based Parallel Applications
ISSUED		EU	Overpartitioning System And Method For Increasing Checkpoints In Component-Based Parallel Applications
ISSUED	179820	JP	Overpartitioning System And Method For Increasing Checkpoints In Component-Based Parallel Applications
ISSUED		CA	Overpartitioning System And Method For Increasing Checkpoints In Component-Based Parallel Applications
FILED	11/467,724 (068002 CON of 068001)	US	Startup And Control Of Graph-Based Computation
FILED	11/733,579 (068003 CON of 068001)	US	Transactional Graph Based Computation
FILED	10/873,681 (069001)	US	Computer-Aided Parallelizing Of Computation Graphs
FILED	(069001)	EU	Computer-Aided Parallelizing Of Computation Graphs
FILED	(069001)	JP	Computer-Aided Parallelizing Of Computation Graphs
FILED	(069001)	CA	Computer-Aided Parallelizing Of Computation Graphs

STATUS (filing date)	PATENT NO./SERIAL NO. (F&R Docket No.)	COUNTRY	TITLE
		CN	
FILED		IN	
FILED	6106419.4	UK	
FILED	(069001)		
FILED	10/941,402 (070001)	US	Data Profiling
FILED	(070001)	EP	Data Profiling
	4794113.5	JP	Data Profiling
	2539668	CA	Data Profiling
	(070001)		
FILED	(070001)	CN	Data Profiling
FILED	(070001)		
FILED	1487DELNP2006	IN	Data Profiling
FILED	(070001)		
FILED	10-2006-7005265	KR	Data Profiling
FILED	(070001)		
FILED	10/941,373 (070002)	US	Joint Field Profiling
FILED	11/467,724 (070003)	US	Functional Dependency Data Profiling
FILED	10/795,374 (071001)	US	Dependency Graph Parameter Scoping
	(080000 ECN / 080001)		Dependency Graph Parameter Scoping
FILED		JP	Dependency Graph Parameter Scoping
FILED	(071001)		
FILED	2005231440	AU	Dependency Graph Parameter Scoping
FILED	(071001)	CN	
FILED	2006001657	EA	Dependency Graph Parameter Scoping
FILED	5131DELNP2006 (071001)	IN	Dependency Graph Parameter Scoping
FILED	(071001)	UK	Dependency Graph Parameter Scoping
FILED	10/796,612 (072001)	US	Controlling Task Execution
FILED	592946 (072001)	EU	Controlling Task Execution
FILED	5726064.0 (072001)	JP	Controlling Task Execution
FILED	2558243 (072001)	CA	Controlling Task Execution
FILED	2005224076 (072001)	AU	Controlling Task Execution
FILED	(072001)		
FILED	571400002.0 (072001)	UK	Controlling Task Execution
FILED	11/169,073 (084001)	US	Aggregating Data With Complex Operations

STATUS (filing date)	PATENT NO./SERIAL NO. (F&R Docket No.)	COUNTRY	TITLE
FILED	PCT/US2006/024288 (084001)	PCT	Aggregating Data With Complex Operations
FILED	06773756.6 (084001)	EP	Aggregating Data With Complex Operations
FILED	(084001)	JP	Aggregating Data With Complex Operations
FILED	(084001)	CA	Aggregating Data With Complex Operations
FILED	2006261118 (084001)	AU	Aggregating Data With Complex Operations
FILED	10-2007-7000846 (084001)	KR	Aggregating Data With Complex Operations
FILED	9596/DELNP/2007 (084001)	IN	Aggregating Data With Complex Operations
FILED	200680023283.3 (084001)	CN	Aggregating Data With Complex Operations
FILED	11/169,074 (085001)	US	Managing Message Queues
FILED	PCT/US2006/024233 (085001)	PCT	Managing Message Queues
FILED	06773738.7 (085001)	EP	Managing Message Queues
FILED	(085001)	JP	Managing Message Queues
FILED	(085001)	CA	Managing Message Queues
FILED	2006262162 (085001)	AU	Managing Message Queues
FILED	10-2007-7000861 (085001)	KR	Managing Message Queues
FILED	9595/DELNP/2007 (085001)	IN	Managing Message Queues
FILED	200680023781 (085001)	CN	Managing Message Queues
FILED	11/169,246 (086001)	US	Managing Memory Pages
FILED	PCT/US2006/024291 (086001)	PCT	Managing Memory Pages
FILED	06786341.6 (086001)	EP	Managing Memory Pages
FILED	(086001)	JP	Managing Memory Pages
FILED	2649489 (086001)	CA	Managing Memory Pages
FILED	2006262111 (086001)	AU	Managing Memory Pages
FILED	10-2007-7027854 (086001)	KR	Managing Memory Pages
FILED	10063/DELNP/2007 (086001)	IN	Managing Memory Pages
FILED	200680019765.3 (086001)	CN	Managing Memory Pages
FILED	11/169,247 (087001)	US	Translating Expressions In A Computing Environment
FILED	PCT/US2006/024942 (087001)	PCT	Translating Expressions In A Computing Environment
FILED	06785526.0 (087001)	EP	Translating Expressions In A Computing Environment
FILED	(087001)	JP	Translating Expressions In A Computing Environment
FILED	(087001)	CA	Translating Expressions In A Computing Environment
FILED	2006261754 (087001)	AU	Translating Expressions In A Computing Environment

STATUS (filing date)	PATENT NO./SERIAL NO. (F&R Docket No.)	COUNTRY	TITLE
FILED	10-2007-7030328 (087001)	KR	Translating Expressions In A Computing Environment
FILED	200680003100.0 (087001)	CN	Translating Expressions In A Computing Environment
FILED	1011/DELNP/2007 (087001)	IN	Translating Expressions In A Computing Environment
FILED	11/169,014 (088001)	US	Managing Parameters For Graph-Based Computations
FILED	PCT/US2006/024057 (088001)	PCT	Managing Parameters For Graph-Based Computations
FILED	06774909.0 (088001)	EP	Managing Parameters For Graph-Based Computations
FILED	(088001)	JP	Managing Parameters For Graph-Based Computations
FILED	(088001)	CA	Managing Parameters For Graph-Based Computations
FILED	2006264760 (088001)	AU	Managing Parameters For Graph-Based Computations
FILED	10-2007-7030597 (088001)	KR	Managing Parameters For Graph-Based Computations
FILED	1012/DELNP/2007 (088001)	IN	Managing Parameters For Graph-Based Computations
FILED	200680022178.1 (088001)	CN	Managing Parameters For Graph-Based Computations
FILED	11/167,902 (089001)	US	Managing Metadata For Graph-Based Computations
FILED	PCT/US2006/024932 (089001)	PCT	Managing Metadata For Graph-Based Computations
FILED	06774909.0 (089001)	EP	Managing Metadata For Graph-Based Computations
FILED	(089001)	JP	Managing Metadata For Graph-Based Computations
FILED	2610080 (089001)	CA	Managing Metadata For Graph-Based Computations
FILED	2006264740 (089001)	AU	Managing Metadata For Graph-Based Computations
FILED	200680022178.1 (089001)	CN	Managing Metadata For Graph-Based Computations
FILED	1011/DELNP/2007 (089001)	IN	Managing Metadata For Graph-Based Computations
FILED	10-2007-7030599 (089001)	KR	Managing Metadata For Graph-Based Computations
FILED	10/979,742 (090001)	US	Managing Related Data Objects
FILED	(090001)	PCT	Managing Related Data Objects
FILED	05825020.0 (090001)	EP	Managing Related Data Objects
FILED	(090001)	JP	Managing Related Data Objects
FILED	2584020 (090001)	CA	Managing Related Data Objects
FILED	2005302270 (090001)	AU	Managing Related Data Objects
FILED	200680037483.1 (090001)	CN	Managing Related Data Objects
FILED	3081/DELNP/2007 (090001)	IN	Managing Related Data Objects
FILED	11/733,434 (091001)	US	Business Rules Editor
FILED	11/434,623 (095001)	US	Managing Computing Resources In Graph-Based Computations
FILED	PCT/US2007/068046 (095001)	PCT	Managing Computing Resources In Graph-Based Computations

STATUS (filing date)	PATENT NO./SERIAL NO. (F&R Docket No.)	COUNTRY	TITLE
FILED	11/836,349 (117001)	US	Distributing Services In Graph-Based Computations
FILED	(117001)		
FILED	11/555,458 (119001)	US	Managing Storage Of Individually Accessible Data Units
FILED	(119001)	PCT	Managing Storage Of Individually Accessible Data Units
FILED	60/952,075 (128PO1)	US	Transaction Graph-Based Computation With Error Handling
FILED	60/973,979 (131PO1)	US	Managing Data Flows In Graph-Based Computations
FILED	12/015,085 (130001)	US	Managing An Archive For Approximate String Matching

PATENT