PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
YONGQIAO XIAO	12/08/2014
TAIYEONG LEE	12/08/2014
JARED LANGFORD DEAN	12/08/2014
RUIWEN ZHANG	12/08/2014

RECEIVING PARTY DATA

Name:	SAS INSTITUTE INC.	
Street Address:	SAS CAMPUS DRIVE	
City:	CARY	
State/Country:	NORTH CAROLINA	
Postal Code:	27513	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14571682

CORRESPONDENCE DATA

Fax Number: (608)661-3597

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: 6086613590

Email: pporembski@bellmanning.com

Correspondent Name: PHILIP A. POREMBSKI

Address Line 1: 2801 WEST BELTLINE HIGHWAY

Address Line 2: STE. 210

Address Line 4: MADISON, WISCONSIN 53713

ATTORNEY DOCKET NUMBER:	04500-0029-03	
NAME OF SUBMITTER:	PHILIP A. POREMBSKI	
SIGNATURE:	/Philip A. Porembski/	
DATE SIGNED:	12/16/2014	

Total Attachments: 5

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PATENT REEL: 034518 FRAME: 0060

ASSIGNMENT

WHEREAS, one or more inventions have been made by the undersigned in

DATA STRUCTURE SUPPORTING CONTINGENCY TABLE GENERATION

and are the subject of a patent application filed in the United States Patent and Trademark Office on <u>December 16</u>, 2014, under Application Serial No. <u>14/571,682</u>, which application is identified as SAS Docket No. 59089.

WHEREAS, SAS INSTITUTE INC., a North Carolina corporation, located and doing business at SAS Campus Drive, Cary, North Carolina 27513, hereinafter referred to as "assignee", is desirous of acquiring all right, title, and interest in said inventions and patent rights therefor throughout the world.

NOW, THEREFORE, for valuable consideration, the receipt and sufficiency of which are hereby acknowledged, THE UNDERSIGNED HEREBY SELLS, ASSIGNS, TRANSFERS, AND DELIVERS TO ASSIGNEE all right, title, and interest, in the United States and throughout the world, in said inventions and all patents, patent rights, patent applications, and inventor's certificates for said inventions, including without limitation said application for patent in the United States and all provisionals, divisions, continuations, continuations-in-part, and resulting patents, all right to sue for infringement or past infringement, and all patents and patent rights that may be granted for said inventions by states or nations other than the United States, or by other authority, entity, or organization, and all applications therefor; and it is covenanted and agreed by the undersigned, and for executors, administrators, and legal representatives of the undersigned, that at assignee's request any and all applications, affidavits, assignments, and other instruments will be made, executed, and delivered as may be necessary or desirable to secure for or vest in assignee, its successors or assigns, any invention right, title, interest, application, patent, patent right or other right or property covered by this assignment, and the United States Patent and Trademark Office is hereby requested and authorized to issue any and all United States patents granted on any of said applications to assignee as owner of the entire right, title, and interest in the patents, and appropriately empowered officials of foreign countries are hereby authorized to issue any letters patent granted on any of said applications to assignee as owner of the entire right, title and interest in the patents.

The undersigned hereby grants Bell and Manning LLC the power to insert on this assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

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PATENT REEL: 034518 FRAME: 0061

Juno 7	12/8/14
YONGQIAO XIAO	Date
Post Office Address: 117 Crafton Park Lane Cary, NC 27519	
STATE OF NORTH CAROLINA }	
COUNTY OF WAKE }	98.
YONGQIAO XIAO appeared before acknowledged that the foregoing instrument was purposes set forth therein.	me this day of December, 2014, and as executed as his free act and deed for the uses and
Unesada M. Lester Notary Public Wake County North Carolina Notory Pt	U.S. Uneada M. Lester

My Commission Expires: July 25, 2019

Sample Co	12/8/2014
TATYEONG LEE	Date
Post Office Address: 120 Bethabara La Cary, NC 27513	me
STATE OF NORTH CAROLINA	}
COUNTY OF WAKE	} Ss.
TAIVEONG LEE appeared be acknowledged that the foregoing instrum purposes set forth therein.	fore me this day of December, 2014, and nent was executed as his free act and deed for the uses and

My Commission Expires: July 25, 2019

Notary Public: Uneada M. Lester

Uneada M. Lester Notary Public Wake County

North Carolina

IN WITNESS WHEREOF, undersigned: JAMED LANGFORD DEAN	this Assignment has been executed below by the
Post Office Address: 210 Benwell C	
Cary, NC 2751	9
STATE OF NORTH CAROLINA	} } } ss.
COUNTY OF WAKE	}
JARED LANGFORD DEA 2014, and acknowledged that the for the uses and purposes set forth therei (SEAL)	N appeared before me this

IN WITNESS WHEREOF, this Assignment has been executed below by the undersigned:

Post Office Address: 232 Creststone Drive Cary, NC 27519 STATE OF NORTH CAROLINA COUNTY OF WAKE RUIWEN ZHANG appeared before me this day of December, 2014, and acknowledged that the foregoing instrument was executed as his free act and deed for the uses and purposes set forth therein. Uneada M. Lester Notary Public Wake County North Carolina Notary Public: Uncada M. Lester

My Commission Expires: July 25, 2019

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RECORDED: 12/16/2014