PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JILEI TIAN	03/02/2012
HUANHUAN CAO	03/02/2012
ZHEN LIU	03/02/2012

RECEIVING PARTY DATA

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PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	14379976	

CORRESPONDENCE DATA

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NAME OF SUBMITTER:	SANDY FONG-HOU	
SIGNATURE:	/Sandy Fong-Hou/	
DATE SIGNED:	08/20/2014	

Total Attachments: 4

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> PATENT REEL: 033575 FRAME: 0023

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ASSIGNMENT

WHEREAS, I/We,

(1)	Jilei Tian	of	Beijing, China
(2)	Huanhuan Cao	of	Beijing, China
(3)	Zhen Liu	of	New York, US

have invented certain improvements in

METHOD AND APPARATUS FOR PROVIDING HUB-BASED INDEXING AND SERVICES

For which I/we have filed an application for Letters Patent of the United States of America, submitted for filing on August 20, 2014 and assigned application no. 14/379976, which is a 371 National Stage of PCT/CN2012/071796, filed on February 29, 2012; and

WHEREAS, I/We authorize the attorney of record to update this document to include Patent Office information as deemed necessary (i.e., filing date, serial number, etc.);

WHEREAS, NOKIA CORPORATION, a corporation organized under the laws of Finland, having its principal office in Espoo, Finland (hereinafter referred to as "ASSIGNEE"), is desirous of acquiring the entire right, title and interest in and under the said invention and the said application, and in and to any and all Letters Patent which shall be granted therefore in the United States of America and in any and all foreign countries;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I/we have sold and do hereby sell, assign, transfer and convey unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and to said invention and application, and in all divisionals, reissues, substitutions, continuations, continuation-in-part and, in any and all Letters Patents of the United States of America and all foreign countries or reissues, reexaminations, or extensions thereof which may be granted therefore or thereon, for the full end of the term for which said Letters Patent may be granted, together with the right to claim the priority of said application in all foreign countries in accordance with the International Convention, the same to be held and enjoyed by said ASSIGNEE, its successors and assigns, as fully and entirely as the same would have been held and enjoyed by me/us if this assignment and sale had not been made.

I/WE ALSO HEREBY authorize and request the Commissioner of Patents and Trademarks to issue all patents for said invention, or patents resulting therefrom to the said ASSIGNEE of my/our entire right, title and interest.

I/WE FURTHER HEREBY sell and assign to said ASSIGNEE, its successors, assigns and legal representatives the full and exclusive rights, title and interest to the invention disclosed in said application throughout the world, including, without limitation, the right to file applications and obtain patents, utility models, industrial models and designs for said invention in its own name throughout the world including all rights of priority, all rights to publish cautionary notices reserving ownership of said invention and all rights to register said invention in appropriate registries. I/WE further agree to execute any and all

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powers of attorney, applications, assignments, declarations, affidavits, and any other papers in connection therewith necessary to perfect such rights, title and interest in ASSIGNEE, its successors, assigns and legal representatives.

I/WE HEREBY covenant that I/WE have not and I/WE will not execute any agreement in conflict herewith.

I/WE HEREBY further covenant, and agree to bind my/our heirs, legal representatives, and assigns, promptly to communicate to said ASSIGNEE or its representatives any facts known to me'us relating to said invention, to testify in any interference or legal proceedings involving said invention, to execute any additional papers which may be requested to confirm the right of the assignee, its representatives, successors, or assigns to secure patent or similar protection for the said invention in all countries and to vest in the assignee complete title to the said invention and Letters Patent, without further compensation, but at the expense of said ASSIGNEE, its successors, assigns, and other legal representatives.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on the date indicated below.

Z March 2012

Date

Mar 2, 2012.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on the date indicated below.

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Cao ' '

Date

Witness Signature ZHANG RAN

Date

IN WITNESS WHEREOF, I have hereunto set my hand and seal on the date indicated below.

Date

Witness Signature Printed Name Date

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RECORDED: 08/20/2014