PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 Assignment ID: PATI875340

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SYNOPSYS TAIWAN CO., LTD.	04/14/2014

RECEIVING PARTY DATA

Company Name:	SYNOPSYS, INC.
Street Address:	675 ALMANOR AVENUE
City:	SUNNYVALE
State/Country:	CALIFORNIA
Postal Code:	94085

PROPERTY NUMBERS Total: 5

Property Type	Number
Application Number:	61351325
Application Number:	12977376
Application Number:	61858650
Application Number:	61619724
Application Number:	61390047

CORRESPONDENCE DATA

Fax Number: 7136234846

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: (713)623-4844

Email: PSDOCKETING@PATTERSONSHERIDAN.COM,tjeffrey@pattersonsheridan.com

Correspondent Name: PATTERSON + SHERIDAN LLP

Address Line 1: 24 GREENWAY PLAZA

Address Line 2: SUITE 1600

Address Line 4: HOUSTON, TEXAS 77046

ATTORNEY DOCKET NUMBER:	SNOP/4684US01
NAME OF SUBMITTER:	Tammie Jeffrey
SIGNATURE:	/Tammie Jeffrey/
DATE SIGNED:	03/10/2025

Total Attachments: 13

PATENT REEL: 070455 FRAME: 0316

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AMENDED & RESTATED INTELLECTUAL PROPERTY **ASSIGNMENT AGREEMENT** (SYNOPSYS, INC.)

THIS AMENDED & RESTATED INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT ("Agreement") is made and entered into effective as of December 10, 2013 ("Effective Date") by and between:

Synopsys Taiwan Co., Ltd., a company organized and existing under the laws of Taiwan ("Assignor"),

and

Synopsys, Inc., a company organized and existing under the laws of the State of Delaware, U.S.A. ("Assignee").

(Assignor and Assignee are collectively referred to as the "Parties" and individually referred to as "Party")

RECITALS

- A. On October 1, 2012, Assignor closed a tender offer to acquire 91.64% of the entire issued and outstanding capital stock of SpringSoft, Inc. ("SpringSoft Taiwan"). On November 30, 2012, Assignor obtained the remaining interest in SpringSoft Taiwan, when SpringSoft Taiwan merged into Assignor. Following such merger, Assignor and Assignee, together with their affiliates (collectively, the "Synopsys Group"), are in the process of restructuring and reorganizing the Synopsys and SpringSoft businesses (the "Reorganization").
- В. In furtherance of the Reorganization, and as part of the Synopsys Group's overall strategy to centralize and maximize the protection, enforcement and prosecution of its intellectual property rights on a worldwide basis, the Parties entered into that certain Intellectual Property Assignment Agreement (the "Original Agreement"), effective as of December 10, 2013, pursuant to which Assignor transferred, conveyed and assigned to Assignee, legal title to all of Assignor's intangible and intellectual property rights (defined herein as the "Intellectual Property").

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- C. The Parties acknowledge that (i) Assignor has transferred to Synopsys Global Kft. ("Synopsys Hungary"), its Hungarian affiliate, economic and beneficial rights in and to the Intellectual Property, pursuant to a separate Amended & Restated Intangible Property Transfer Agreement entered into between Assignor and Synopsys Hungary effective as of even date herewith (the "IP Transfer Agreement"). Accordingly, the transfer of legal title to the Intellectual Property hereunder is and shall be subject to the IP Transfer Agreement.
- D. In light of the clarification under the IP Transfer Agreement when it was amended and restated, the Parties desire to restate the transfer of legal title under the Original Agreement.
- E. The Parties intend that this Agreement shall amend, restate, and supersede the Original Agreement in its entirety.

The Parties agree as follows:

Section 1 - Definitions

For purposes of this Agreement, the following terms shall have the meanings and definitions set forth below:

- 1.1 "Affiliate" of a Party shall mean and include any entity or association controlled by, controlling or under common control with such Party. For purposes of this definition, the term "control" shall mean the ownership of more than fifty percent (50%) of the voting shares in any entity or association.
- 1.2 "Copyrights" shall mean (a) any rights in original works of authorship fixed in any tangible medium of expression, and (b) all rights in and to any of the foregoing, which are owned, licensed, or acquired by Assignor as of the Effective Date.
- 1.3 "Intellectual Property" shall mean any and all Patents, Copyrights, Trademarks or any other registered or statutory intellectual property rights, together with all enhancements, improvements, modifications, translations, and adaptations thereof, whether registered or not, and all applications and registrations therefor, relating to any or all of the Products, which are owned, licensed or otherwise acquired by Assignor as of the Effective Date. This definition of Intellectual Property includes, without limitation, the registered intellectual property listed on Schedule 1.3 attached hereto.

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- 1.4 "Patents" shall mean and include any and all (a) patents, patent applications, and patent disclosures, including all related divisions, continuations, continuing prosecution applications, continuations in part, reissues, renewals, reexaminations, and extensions thereof, and (b) all rights in and to any of the foregoing, whether registered or unregistered, which are owned, licensed, or acquired by Assignor as of the Effective Date.
- 1.5 "**Products**" shall mean and refer to, individually and/or collectively, Assignor's Integrated Circuit (IC) design software and related products, offerings, and solutions.
- 1.6 "Trademarks" shall mean the trademarks, brand names, trade names, service marks, trade dress, domain names, logos, copyrights to logos or pictoral depictions, designs, slogans, and similar designations, anywhere in the world, whether in word mark, stylized or design format, registered or unregistered, which are owned, licensed or otherwise acquired by Assignor as of the Effective Date and used in connection with the Products.

Section 2 - Transfer, Conveyance, and Assignment of Legal Title to the Intellectual Property

- 2.1 Assignor hereby transfers, conveys, assigns and agrees to deliver to Assignee, and Assignee hereby acquires and accepts from Assignor, legal title to the Intellectual Property.
- 2.2 In furtherance of the transactions contemplated by Section 2.1, the Parties agree to execute and deliver all instruments of transfer, conveyance and assignment as, and to the extent, necessary or convenient to evidence the transfer, conveyance and assignment by Assignor to Assignee of legal title to the Intellectual Property. The Parties contemplate that they may enter into one or more additional instruments of transfer with respect to the transfer of legal title to some of the Intellectual Property to be transferred from Assignor to Assignee to the extent necessary or convenient to comply with local legal or filing requirements.
- 2.3 Upon Assignee's request, Assignor (or its designee) shall deliver to Assignee or its designee all files, records, notes and correspondence with respect to the prosecution, registration and maintenance of legal title to the Intellectual Property.
- 2.4 Assignee acknowledges and agrees that (a) Assignor is not making any representations or warranties, express or implied, with respect to the legal title to the Intellectual Property transferred pursuant to this Agreement or otherwise, (b) all such legal title to the Intellectual Property is being transferred on an "as is," basis, and (c) Assignee will bear the legal risks that any conveyance will prove to be insufficient to vest in it good and

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marketable title to the Intellectual Property, free and clear of any security interest, pledge, lien, charge, claim or other encumbrance of any nature whatsoever.

- 2.5 The Parties acknowledge and agree that some of the transfers contemplated by this Agreement may not be effected on the Effective Date due to the inability of the Parties to obtain necessary consents or approvals or the inability of the Parties to take certain other actions necessary to effect such transfers. To the extent any transfers contemplated by this Agreement have not been fully effected on the Effective Date, Assignor and Assignee will cooperate and use commercially reasonable efforts to obtain any necessary consents or approvals or take any other actions necessary to effect such transfers as promptly as practicable following the Effective Date.
- 2.6 For the avoidance of doubt, the Parties acknowledge that Synopsys Hungary (or its successors or assigns) holds all economic and beneficial rights and interests in and to the Intellectual Property pursuant to the IP Transfer Agreement notwithstanding the transfer under Section 2.1, and Assignee acquires legal title/ownership to the Intellectual Property subject to any and all existing licenses of the Intellectual Property granted by Assignor or Assignor's predecessors in interest, including but not limited to the IP Transfer Agreement.
- 2.7 The Parties acknowledge and agree that the assignment of legal title to the Intellectual Property under Section 2.1, includes, but is not limited to, the right to (a) be named as the legal holder of the Intellectual Property in the records of patent offices worldwide, (b) sue and recover damages for past, present and future infringement claims with respect to the Intellectual Property and freely control any such lawsuits or settlements of the same, and (c) defend against any and all past, present or future claims, suits, actions, proceedings, losses, damages, liabilities, costs and expenses arising from, or attributable to, any allegation that the Intellectual Property infringes the intellectual property or proprietary rights of any third party.

Section 3 - General Provisions

- Further Assurances. The Parties shall each perform such acts, execute and deliver such instruments and documents, and do all such other things as may be reasonably necessary to accomplish the transactions contemplated in this Agreement.
- 3.2 **Governing Law.** The laws of the State of California, U.S.A. (without reference to its principles of conflicts of law and excluding the UN Convention on the International Sale of Goods) govern the construction, interpretation and other matters arising out of or in connection with this Agreement (whether arising in contract, tort, equity or otherwise).

- 3.3 **Severability.** If any provision of this Agreement is determined to be invalid, illegal or unenforceable, the remaining provisions of this Agreement shall remain in full force, if the essential terms and conditions of this Agreement for each Party remain valid, binding and enforceable.
- 3.4 **No Waiver.** The failure by either Party to assert any of its rights hereunder, including, but not limited to, the right to terminate this Agreement due to a breach or default by the other Party, shall not be deemed to constitute a waiver by that Party of its right thereafter to enforce each and every provision of this Agreement in accordance with its terms.
- 3.5 **Subject Headings**. The subject headings of this Agreement are included for purposes of convenience only and shall not affect the construction or interpretation of any of its provisions.
- 3.6 **Amendment**. The Parties may amend this Agreement only by a written agreement signed by each Party to be bound by the amendment and that identifies itself as an amendment to this Agreement.
- 3.7 **Entire Agreement.** This Agreement, together with Schedule 1.3 attached hereto, constitutes the final agreement between the Parties with respect to the subject matter contained herein, and is the complete and exclusive statement of the Parties' agreement on the matters contained herein. All prior and contemporaneous negotiations and agreements between the Parties with respect to the matters contained herein are superseded by this Agreement. Notwithstanding the foregoing, the Parties contemplate that they may desire to enter into or execute instruments of various kinds consistent with but in some cases duplicative of this Agreement in order to effect and/or document the transactions contemplated in this Agreement, in accordance with Section 2.2 above.
- 3.8 Third Party Beneficiaries. Nothing in this Agreement is intended, nor shall it be constructed, to confer any rights or benefits upon any person (including, but not limited to, any employee or former employee of either Party) other than the Parties.
- 3.9 **Language of the Contract; Counterparts.** Both Parties agree that English shall be the language of interpretation of this Agreement. The Parties may execute this Agreement in multiple counterparts, each of which constitutes an original as against the Party that signed it, and all of which together constitute one agreement. The signatures of both Parties need not appear on the same counterpart. The delivery of signed counterparts by facsimile or email transmission that includes a copy of the sending Party's signature is as effective as signing and delivering the counterpart in person.

- 3.10 Successors and Assigns; Assignment. This Agreement shall be binding on and inure to the benefit of the Parties, their successors in interest and assigns. Neither Party may assign any of its rights nor delegate any of its obligations under this Agreement without the written consent of the other Party, which consent may be withheld in its sole and absolute discretion and any assignment or attempted assignment in violation of the foregoing will be null and void. Nothing in this Section 3.10 shall limit in any way the rights granted to Assignee in Section 2 of this Agreement to freely control, use, enforce, further transfer (granting the acquirer the same rights), assign, license, sub-license, alter, amend, update, develop, create derivative works, or otherwise dispose of the Intellectual Property.
- 3.11 **Authority**. Each of the Parties represents to the other that (a) it has the corporate or other requisite power and authority to execute, deliver and perform this Agreement, (b) the execution, delivery and performance of this Agreement has been duly authorized by all necessary corporate or other action, (c) it has duly and validly executed and delivered this Agreement, and (d) this Agreement is a legal, valid and binding obligation, enforceable against it in accordance with its terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium or other similar laws affecting creditors' rights generally and general equity principles.

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The Parties have caused this Agreement to be executed by their duly authorized representatives effective as of the Effective Date.

SYNOPSYS	TAIWA	N CO.	LTD.
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By: Name:

Date:

Title:

Director, Chairman

SYNOPSYS, INC.

By:

Erika Varga McEnroe Name:

Title:

Interim General Counsel

Date:

SYNOPSYS

The Parties have caused this Agreement to be executed by their duly authorized representatives effective as of the Effective Date.

SYNOPS	YS TAIWAN CO. LTD.	SYNOPS	SYNOPSYS, INC.					
Ву:		Ву:						
Name:	Robbins Yeh	Name:	Erika Varga McEnroe					
Title:	Director, Chairman	Title:	Interim General Counsel					
Date:		Date:	April 11,2014					

SYNOPSYS LEGAL C: CeFRANCOIS

SCHEDULE 1.3

PATENTS/TRADEMARKS

PATENTS

Patent ID	Invention ID	Patent Ref	App Title	Country	Status	Filed Date	Арр No.	Publication Number	Patent No.	Grant Date	Ownership History
81078877	81078285	2181TW01	METHOD AND SYSTEM FOR PROVIDING ACTIVE ANNOTATIONS	Taiwan	Granted	12 Feb 1999	088102247	Number	475150	01 Feb 2002	SpringSoft Taiwan
81078879	81078287	2182TW01	ACTIVE TRACE DEBUGGING FOR HARDWARE DESCRIPT LANGUAGES	Talwan:	Granted	18 Jan 2002	091100811		NF181545	21 Jun 2003	SpringSoft Taiwan
81078890	81078292	21,83T;yV01	PRIORITIZED DEBUGGING OF AN ERROR SPACE IN PROGRAM CODE	Tajwan	Granted	18 Oct 2001	090125838		535053.	01 Jun 2003	SpringSoft Taiwart
81078892	81078295	2184TW01	FAST WAVEFORM DISPLAY METHOD AND SYSTEM	Taiwan	Granted	03 Oct 2002	091122913		588276	21 May 2004	SpringSoft Taiwan
81078896	81078303	2186TW01	CIRCUIT SIMULATION BUS TRANSACTION ANALYSIS	Taiwan	Granted	13 Dec 2004	093138631		1292673	21 Jan 2008	SpringSoft Taiwan
81078903	81078331	2191US01	HIERARCHIAL POWER MAP FOR LOW POWER DESIGN	United States of America		24 Jun 2010	61/358,002				SpringSoft USA & SpringSoft Talwan
81078904	81078331	2191US02	HIERARCHIAL POWER MAP FOR LOW POWER DESIGN	United States of America	Granted	13 Jun 2011	13/158,471	US 2011/0320991; A1	8,365,132	29 Jan 2013	SpringSoft USA & SpringSoft Taiwan
81078906	81078335	2192US02	METHOD OF RECORDING AND REPLAYING CALL FRAMES FOR A TESTBENCH	United States of America.	Pending	08 May 2011.	13/103,099	US 2011/0283247 At			SpringSoft USA & SpringSoft Taiwan
81078907	81078340	2193US01	METHODS AND SYSTEMS FOR EVALUATING CHECKER QUALITY OF A VERIFICTION ENVIRONMENT	United States of America.	Expired	04: Jan 2010	61/351,325				SpringSoft USA & SpringSoft Taiwan
81078908	81078340	2193US02	METHODS AND SYSTEMS FOR EVALUATING CHECKER QUALITY OF A VERIFICTION ENVIRONMENT	United States of America	Pending	23 Dec 2010	12/977,376	US 2011/0302541: At			SpringSoft USA & SpringSoft Taiwan
81078909	81078331	2191US03	HIERARCHIAL POWER MAP FOR LOW POWER DESIGN	United States of America	Pending	18 Dec 2012	13/7.18,979				SpringSoft USA & SpringSoft Taiwan
81078910	81078331	2191US04	HIERARCHIAL POWER MAP FOR LOW POWER DESIGN	United States of America	Pending	19 Dec 2012	13/720,737				SpringSoft USA & SpringSoft Taiwan
81079034	81078348	2194JP01	METHOD AND APPARATUS FOR VERSATILE CONTROLLABILITY AND OBSERVABILITY IN PROTOTYPE SYSTEM	Japan	Pending	09 Feb 2012	:2012-026121				SpringSoft USA & SpringSoft Talwan
81079035	81078348	2194US01	METHOD AND APPARATUS FOR VERSATILE CONTROLLABILITY AND OBSERVABILITY IN PROTOTYPE SYSTEM	United States of America	Expired	12 Feb; 2010.	61/304,328				SpringSoft USA & SpringSoft Taiwan
81079036	81078348	2194US02	METHOD AND APPARATUS FOR VERSATILE CONTROLLABILITY AND OBSERVABILITY IN PROTOTYPE SYSTEM	United States of America	Granted	.11.Feb:2013	13/025,809	US 2011/0202894 A1	8,281,280	:02.9ct;2012	SpringSoft USA & SpringSoft Taiwan
81079037	81078348	2194US03	METHOD AND APPARATUS FOR VERSATILE CONTROLLABILITY AND OBSERVABILITY IN PROTOTYPE SYSTEM	United States of America	Pending	29 Aug 2012	13/597,997				SpringSoft USA & SpringSoft Taiwan
81079038	81078848	2.194US04	METHOD AND APPARATUS FOR VERSATILE CONTROLLABILITY AND OBSERVABILITY IN PROTOTYPE SYSTEM	United States of America	Expired	17 Nov-2011	61/581,045				SpringSoft USA & SpringSoft Talwan
81079039	81078348	2194US05	METHOD AND APPARATUS FOR VERSATILE CONTROLLABILITY AND OBSERVABILITY IN PROTOTYPE SYSTEM	United States of America	Pending	28 Dec 2012	13/730,543.				SpringSoft USA & SpringSoft Taiwan
81079040	81078355	2195US01	METHOD AND APPARATUS FOR TRANSACTION RECORDING AND VISUALIZATION	United States of America	Expired	29 Mar 2010	61/318,627				SpringSoft USA & SpringSoft Taiwan
81079041	81078355	2195US02	METHOD AND APPARATUS FOR TRANSACTION RECORDING AND VISUALIZATION	United States of America	Published	14 Mar 2011	13/047;007	US 2011/0238397 A1			SpringSoft USA & SpringSoft Taiwan
81079042	81078360	2196US01	METHODS AND SYSTEMS FOR DEBUGGING: EQUIVALENT DESIGNS DESCRIBED AT DIFFERENT DESIGN LEVELS	United States of America	Expired	05 Oct 2010	61/390,047				SpringSoft USA & SpringSoft Taiwan

Patent ID	Invention ID	Patent Ref	App Title	Country Status	Filed Date	App No.	Publication	Patent No.	Grant Date	Ownership History
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81079043	81078360	2196US02	METHODS AND SYSTEMS FOR DEBUGGING EQUIVALENT DESIGNS DESCRIBED AT DIFFERENT DESIGN LEVELS	United States of Published America	11 Apr 2011	13/084,061	US 2012/0084744 Á1			SpringSoft USA & SpringSoft Taiwan
81079044	81078365	2197US01	WHAT-IF SIMULATION METHODS AND: SYSTEMS:	United States of Expired America	16 Mar 2011	61453;258				SpringSoft USA & SpringSoft Taiwan
81079045	81078365	2197US02	WHAT-IF SIMULATION METHODS AND SYSTEMS	United States of Published America	07 Oct 2011	13/269(085	US 2012/023937.0: Ä1			SpringSoft USA & SpringSoft Taiwan
81079046	8107837.1	2198US01	VIEWING AND DEBUGGING HDL DESIGNS HAVING SYSTEMVERILOG INTERFACE CONTRUCTS	United States of Expired America	.17 Aug 2011	61/524;679				SpringSoft USA & SpringSoft Taiwan.
81679047	81078371	2198US02	VIEWING AND DEBUGGING HDL DESIGNS HAVING SYSTEMVERILOG INTERFACE CONTRUCTS	United States of Published America	.10.Apr 20.12	13/443 523				SpringSoft USA & SpringSoft Taiwan
81079048	81078376	2199US01	SYSTEMS AND METHODS FOR INCREASING DEBUGGING VISIBILITY OF PROTOTYPING SYSTEMS	United States of Expired America	29 Aug 2011	61/528;733				SpringSoft USA & SpringSoft Taiwan
81079049	81078375	2199US02	SYSTEMS AND METHODS FOR INCREASING DEBUGGING VISIBILITY OF PROTOTYPING SYSTEMS.	United States of Published America	28 Aug 2012	13/596;069				SpringSoft UBA & SpringSoft Talwan
81079050	81078384	2200US01	PROTOLINK 2ND CIP: CO-SIM AND CO-EMU	United States of Expired America	30 Dec 2011	61/582,194				SpringSoft USA & SpringSoft Taiwan
81079051	81078389	2201US01	METHOD FOR RANKING FAULT-TEST PAIRS: BASED ON WAVEFORM STATISTICS IN A. MUTATION-BASED TEST PROGRAM EVALUATION SYSTEM	United States of Expired America	17 Feb 2012	61/600,033				SpringSoft USA & SpringSoft Taiwan
81079054	81078394	2202US04	PROTOTYPE AND EMULATION SYSTEM BUILT FROM MULTIPLE CUSTOM PROTOTYPE BOARDS	United States of Pending America	03 Apr 2012	61/619,724				SpringSoft USA & SpringSoft Talwan
81079055	81078#04	2203US01	METHODS AND SYSTEMS FOR DETECTING AND DEBUGGING DESIGN ERRORS IN LOW POWER IC DESIGN	United States of Adknowled America	tged 10 May 2012	61/645,071				SpringSoft USA & SpringSoft Taiwan
81079056	.81.07.84:13	2205US01	EMULATION BASED FUNCTIONAL QUALIFICATION	United States of Expired America	3.0 Jul 2012	61/677,219				SpringSoft USA & SpringSoft Taiwan
81079057	91078416	2206US01	METHOD OF BUILDING AN EMULATION SYSTEM WITH MULTIPLE CUSTOMER PROTOTYPING BOARDS		01 Dec 2012	61/732,296				SpringSoft USA & SpringSoft Taiwan
81079058	81078419	2207TW01	RULE DRIVEN METHOD AND SYSTEM FOR EDITING PHYSICAL INTEGRATED CIRCUIT LAYOUT	Taiwan Granted	28 Jan 1999	098101329		501038	01 Sep 2002	SpringSoft Taiwan
81079060	81078422	2208TW01	METHOD AND SYSTEM FOR CONSTRUCTING AND MANIPULATING A PHYSICAL INTEGRATED GIRCUIT LAYOUT OF A MULTIPLE-GATE. SEMICONDUCTOR DEVICE	Taiwan Granted	16 Dec 1999	088122123		486821	11 May 2002	SpringSoft Taiwan
81079062	81078424	2209TW01	METHOD AND SYSTEM FOR DRAWING LAYOUT OF PROCESS TESTING COMPONENTS	Taiwan Granted	.16 Jan 2002	091100574		NF184323	21 Aug 2003	SpringSoft Talwan
81079064	81078424	2209TW02:	METHOD AND SYSTEM USING GRAPHICS INTERFACE TO EDIT A USER DEFINED COMPONENT	Taiwan: Granted	15 Nov 2004.	093134910		127001.8	01 Jan 2007	SpringSoft Talwan
81079067	.81078435	2212TW01	UNIT-BASED LAYOUT SYSTEM FOR PASSIVE IC	Taiwan Granted	16 Dec 2005	094144691		1306,209	1:1 Feb:2009;	SpringSoft Taiwan
81079074	81078444	2216TW01	ANALOG AND MIXED SIGNAL IC LAYOUT SYSTEM	Taiwan Granted	12 Oct 2007	096138261		1345718	21:Jul 2011	SpringSoft Taiwan
81079079	:81078451	224,7U,S03	HIERARCHY-BASED ANALYTICAL PLAGEMENT METHOD CAPABLE OF MACRO ROTATION WITHIN AN INTEGRATED CIRCUIT	United States of Expired America	15 Jun 2010	61/354;719				SpringSoft USA & SpringSoft Taiwan

Patent ID	Invention ID	Patent Ref	App Title	Country	Status	Filed Date	App No.	Publication Number	Patent No.	Grant Date	Ownership History
81079080	81078451	2217US04	HIERARCHY-BASED ANALYTICAL PLACEMENT METHOD CAPABLE OF MACRO ROTATION WITHIN AN INTEGRATED CIRCUIT	United States of America	F Granted.	25 Apr 2011	13/093,814	US 2011/0202897 A1	8;261,223	04 Sep 2012	SpringSoft USA & SpringSoft Taiwan
81079086	81078478	2221US01	METHOD FOR IMPROVING YIELD RATE USING REDUNDANT WIRE INSERTION	United States of	f Expired	30 Oct 2009	61/256;422	.751			SpringSoft USA & SpringSoft Taiwan
81079087	81078478	2221US02	METHOD FOR IMPROVING YIELD RATE USING REDUNDANT WIRE INSERTION	United States of America	Granted:	27-061:2010	12/913,674	US 2011/0107278 A1	8;336;001	18 Dec 2012	SpringSoft USA & SpringSoft Taiwan
51079066	81078483	2222US01	SYSTEMS AND METHODS FOR DESIGNING AND MAKING INTEGRATED CIRCUITS WITH CONSIDERATION OF WIRING DEMAND RATIO	United States of America	Expired	.17 Dec 2009	61/287,344	,m			SpringSoft USA & SpringSoft Taiwan
81079080	.81078483	2222US02	SYSTEMS AND METHODS FOR DESIGNING AND MAKING INTEGRATED CIRCUITS WITH CONSIDERATION OF WIRING DEMAND RATIO	United States of America	f Granted	16 Dec 2010.	12/970,888	US 2011/0154282. A1	8,407,647	-26 Mar 2013:	SpringSoft USA & SpringSoft Taiwan
81079090	81078489	2223US01	METHODS FOR GENERATING DEVICE LAYOUTS BY COMBINING AN AUTOMATED DEVICE LAYOUT GENERATOR WITH A SCRIPT	United States of America	f Expired	13 Sep 2010	61/382,302	ΑI			SpringSoft USA & SpringSoft Taiwan
81079092	81078489	2223US02	METHODS FOR GENERATING DEVICE: LAYOUTS BY COMBINING AN AUTOMATED DEVICE LAYOUT GENERATOR WITH A SCRIPT	United States of America	Pending	22,Jul-20,11	13/189,014	US 2012/0066659 A1			SpringSoft USA & SpringSoft Taiwan
81079093	81078493	2224JP01	MULTIPLE LEVEL SPINE ROUTING	Japan.	Pending	28 Nov 2011	2011-259663	US 2012/118986 A1			SpringSoft USA & SpringSoft Talwari
81079094	81078493	2224KR01	MULTIPLE LEVEL SPINE ROUTING	Korea, Republic of (KR)	Pending	28 Nov 2011	10-2011- 0125263	.01			SpringSoft USA & SpringSoft Taiwan
81079095	81078493	2224TW01	MULTIPLE LEVEL SPINE ROUTING	Taiwan	Pending	25 Nov 2011	100143295				SpringSoft USA & SpringSoft Taiwan
81079096	81078493	2224US01	MULTIPLE LEVEL SPINE ROUTING:	United States of	Expired	29 Nov 2010	81/417 839				SpringSoft USA & SpringSoft Taiwan
81079097	81078493	2224US02	MULTIPLE-LEVEL SPINE-ROUTING	United States of America	Allowed.	04 Nov 2011	13/289,963	US 2012/0137.264 A1			SpringSoft USA & SpringSoft Taiwan
81079098	81078493	2224US03	MULTIPLE LEVEL SPINE ROUTING	United States of America	f Allowed.	04 Nov 2811	13/289,965	US 2012/0137265 A1			SpringSoft USA & SpringSoft Taiwan
81079099	81078501	2225TVV01	METHOD OF CONTEXT-SENSITIVE, TRANS- REFLEXIVE, INCREMENTAL DESIGN RULE CHECKING AND ITS APPLICATIONS	Taiwan	Pending	02.Jan 2012	101100013.	24			SpringSoft USA & SpringSoft Taiwan
81079100	81078501	2225US01	METHOD OF CONTEXT-SENSITIVE, TRANS- REFLEXIVE, INCREMENTAL DESIGN RULE CHECKING AND ITS APPLICATIONS	United States of America	Expired	06 Jan 2011	61/430,184				SpringSoft USA & SpringSoft Taiwan
81079101	.81078501	2225US02	METHOD OF CONTEXT SENSITIVE, TRANS- REFLEXIVE, INCREMENTAL DESIGN RULE CHECKING AND ITS APPLICATIONS	United States of America	Pending	20 Oct 2011	13/277,229	US 2012/0180014 A1			SpringSoft USA & SpringSoft Talwan
81079102	81078511	2226US01	MANIPULATING PARAMETERIZED CELL DEVICES IN A CUSTOM LAYOUT DESIGN	United States of America	f Expired	†1-Jun 2010	61/353,946	Al			SpringSoft USA & SpringSoft Taiwan
81079103	81078511	2226US02	MANIPULATING PARAMETERIZED CELL DEVICES IN A CUSTOM LAYOUT DESIGN	United States of America	Pending	06 Jun 2011	13/154,068	US 2011/0307854 A1			SpringSoft USA & SpringSoft Taiwan
81079104	81078516	2227US01	METHOD OF CONSTRAINT-HIERARCHY-DRIVEN	United States of America	Expired	24 May 2011	61/489,296	3.11			SpringSoft USA & SpringSoft Taiwan
81079105	81078516	2227US02	METHOD OF CONSTRAINT-HIERARCHY-DRIVEN IC PLACEMENT		Granted .	13 Jan 2012	13/349,584		8,296,708	.23-Oct 2012	SpringSoft LISA & SpringSoft Taiwan
81079106	81078521	2228US01	COMPACT NET ROUTING	United States of America	Expired	27-Oct 20:11	61/52,409				SpringSoft USA & SpringSoft Taiwan

Patent ID	Invention (D	Patent Ref	App Title	Country	Status	Filed Date	App No.	Publication	Patent No.	Grant Date	Ownership History
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81079107	81078521	2228US02	COMPACT:NET ROUTING	United States of America	Pending	25 Oct 2012	13/6,60,887				SpringSoft USA & SpringSoft Taiwan
81079109	01070524	2229U301	METHOD SCHEMATIC DRIVEN LAYOUT	United States of America	©igpined	07 Oct 2011	01/544 (203				SpringSoft UGA & SpringSoft Talwan
81079109	81078524	2229US02	METHOD SCHEMATIC DRIVEN LAYOUT	United States of	Pending	06 Oct 2012	13/646,664				SpringSoft USA &
81079110	91078528	2230US01	CREATION METHOD TO SPEEDING UP ACCESS TO	America: United States of	Evpired	07:0ct:2011	61/544;285				SpringSoft Talwart SpringSoft USA &
		Terre - 1.1	DESIGN DATABASES HAVING LARGE: NUMBERS OF DESIGN UNITS	America							SpringSoft Taiwan
81079111	:81078528	2238U-S02	METHOD TO SPEEDING UP ACCESS TO DESIGN DATABASES HAVING LARGE	United States of America	Rending	†8-Apr 2012	13/449,334				SpringSoft USA & SpringSoft Taiwan
81079112	81078534	2231US01	NUMBERS OF DESIGN UNITS: PARAMETERIZED CELL LAYOUT GENERATION.	United States of	Expired	12 Jan 2012	61/858,650				SpringSoft USA &
			GUIDED BY A DESIGN RULE CHECKER	America.							SpringSoft Taiwan
81079113	81078534	2231US92	PARAMETERIZED CELL LAYOUT GENERATION GUIDED BY A DESIGN RULE CHECKER	United States of America	Pending	24.Nov.2012,	13/684;496				SpringSoft USA & SpringSoft Talwan
81079114	81078538	2232US81	SYSTEM AND METHODS FOR HANDLING	United States of	Pending	22 Mar 2012.	61/614,048				SpringSoft USA &
81079115	81078545	2233US01	VERIFICATION ERROR METHOD AND SYSTEMS FOR LOCKING AND	America. United States of	Pending	30 Apr 2012	61/640 036				SpringSoft Taiwan SpringSoft USA &
81079116	81078550	2234US01	UNLOCKING DESIGN FILES A METHOD OF FAST ANALOG LAYOUT	America United States of	escalar à	arir anu	-274 61-00-0-00				SpringSoft Taiwan SpringSoft USA &
			MIGRATION	America.		24 May 2011	61/489,269				SpringSoft Taiwan
81079117	81078550	2234US.02	A METHOD OF FAST ANALOG LAYOUT MIGRATION	United States of America	Pending	21 May 2012.	13/476,027	US 2012/0304139 A1			SpringSoft USA & SpringSoft Talwan
81079118	81078556	2235US01	GATEWAY MODEL ROUTING WITH SLITS ON WIRES	United States of America	Pending	22 Nov:2012	61/729,343	***			SpringSoft USA & SpringSoft Taiwan
81079119	81078560	2236US01	OA POELL CACHE MIRROR SCHEME	United States of America	On-Höld						SpringSoft USA & SpringSoft Talwan
81079120	81078567	2237TVV01	METHOD AND SYSTEM FOR ANALYZING TEST COVERAGE	Taiwan	Abandoned	20 May 1999	088108421				SpringSölt Taiwan
81079122	81078571	2238TVV01	SCHEMATIC DIAGRAM GENERATION AND DISPLAY SYSTEM	Taiwan	Granted	24:Oct 2005	994137155		1284817	:01:Aug 2007	SpringSoft Taiwan
81079126	81078581	2241US01	CIRCUIT EMULATION SYSTEM AND METHODS	United States of America	Granted	08 Apr 2010	12/7.56(990)	US 2011/0251836	8,255,853	28 Aug 2012	SpringSoft USA & SpringSoft Talwan
81079149	81078650	2258DE01	HERARCHICAL: NETWORK-BASED EMULATION		Granted	07 Jun 2004	4102563.6	.A1	6020040332496	5 04 May 2011	SpringSoft Talwan
			SYSTEM	(Federal Republic of)					5		
81079150	81078650	2258EP01	HIERARICHICAL, NETWORK-BASED EMULATION SYSTEM	European Patent	Expired	.16; Jun 2003	4102563:6		EP1489511	04 May 2011	SpringSoft:Taiwan
81079151	81078650	2258EP02	HIERARCHICAL, NETWORK-BASED EMULATION SYSTEM		Pending	01 Nov 2004	4105443.8				SpringSoft Taiwan
81079152	81078650	2258FR01	HIERARCHICAL, NETWORK-BASED EMULATION SYSTEM	France	Granted	07; Jun; 2004	4,102563.6		EP1489511	04 May 2011	SpringSoft Taiwan
81079153	81078650	2258GB01	HIERARCHICAL, NETWORK-BASED EMULATION SYSTEM	United Kingdom	Granted	07 Jun 2004	4102563.6		EP1489511	04 May 2011	SpringSoft Taiwan
81079154	81078650	2258JP01	HIERARCHICAL, NETWORK-BASED EMULATION SYSTEM	Japan	Granted	18 Jun 2004	2004-178959		JP4456420	12.Feb 2010	SpringSoft Talwan
81079155	81078650	225/8JP02	HIERARCHICAL, NETWORK-BASED EMULATION SYSTEM	Japan.	Granted	13: Dec:2004	2004-360049		JP46640,56	14 Jan 2011	SpringSoft-Taiwan
81079156	81078850	2258US01	HIERARCHICAL, NETWORK-BASED EMULATION SYSTEM	United States of America	Granted.	18 Jun 2003	10/463 057	US 2004/0254779 A1	7,072,825	.04 Jul 2006:	SpringSoft Taiwan

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Patent ID	Invention ID	Patent Ref	App Title	Country Status	Filed Date	App No.	Publication Number	Patent No.	Grant Date	Ownership History
81079157	81078650	2258US02	RESOURCE BOARD FOR EMULATION SYSTEM	United States of Granted America	11 Dec 2003	10/735,342	US 2004/0254906 A1	7,120,571	10 Oct 2006	SpringSoft Taiwan
81079159	81078654	2259L(S01	CLOCK DISTRIBUTION IN A CIRCUIT EMULATOR	United States of Granted America	:11 Dec:2003	10/735;341	US 2005/0131670 Al	7,417,143;	:03:0ct 2006	SpringSoft Taiwan
81079160	81078666	2261US01	CIRCUIT EMULATION AND DEBUGGING METHOD	United States of Granted America	09 Apr 2007	11/697;869	US 2008/0250378 A1	7,703;054	20;Apr.2010	SpringSoft Taiwan
81079161	81078672	2262US01	EVEN-DRIVEN:EMULATION:SYSTEM	United States of Granted America	15 May 2008	12/120,895	US 2009/0287468 A1	7,970,597	28. Jun 2011	SpringSoft Taiwan
81079233	81078650	2258US03	METHOD OF PROGRAMMING A CO- VERIFICATION SYSTEM	United States of Granted America	19 Sep 2005	11/230,999	US 2006/0015313 A1	7,366,652	29 Apr 2008	SpringSoft Talwart
81080278	81080275	2815US01	METHOD OF TESTING HIGH-SPEED IC WITH LOW-SPEED IC TESTER	United States of Abandoned America	06 Sep 2007	11/470,312.				SpringSoft USA & SpringSoft Taiwan

TRADEMARKS

Centrude
Laker (name & design)
Novas
Prototinik:
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SpringSoft (name , in Chinese, and Jogo).
Verdi

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