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Conveying Party(ies)			Execution Date(s)	
1. Rangarajan, Vijay				01312003	7	
2. Maniyar, Shyamsundar N.				01312003		
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Attorney Docket No. 10294 CUSTOMER NUMBER 26327 The Law Office of Kirk D. Williams Attorney at Law 1234 S. Ogden St. Denver, CO 80210

ASSIGNMENT

WHEREAS, WE, VIJAY RANGARAJAN (OF 1055 E. EVELYN AVE. #14, SUNNYVALE, CA 94086), SHYAMSUNDAR N. MANIYAR (OF 3483 GLENPROSEN CT., SAN JOSE, CA 95148), AND WILLIAM N. EATHERTON (OF 1266 HICKERSON COURT, SAN JOSE, CA 95127), are the joint inventors of an invention entitled "METHODS AND APPARATUS FOR STORING TREE DATA STRUCTURES AMONG AND WITHIN MULTIPLE MEMORY CHANNELS" as described and claimed in the specification forming part of an application for United States letters patent executed herewith;

Whereas, Cisco Technology, Inc. (hereinafter referred to as Assignee), a corporation of the State of California having a place of business at 170 W. Tasman Drive, San Jose, CA 95134 is desirous of acquiring the entire United States domestic and foreign right, title, and interest in and under the invention described in the patent application and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

Now, Therefore, in exchange for good and valuable considerations, the receipt and sufficiency of which are hereby acknowledged, we sell, assign and transfer to the Assignee and the Assignee's legal representatives, successors and assigns the full and exclusive rights, title and interest in and to the invention in the United States and every foreign country and the entire right. title, and interest in and to the patent application and other such applications, including, but not limited to, provisional applications, non-provisional applications, continuations, continuations-inpart, divisionals, reissues, renewals, and extensions, that may be filed in the United States and every foreign country on the invention, and the patents or extensions thereof, both foreign and domestic, that may issue thereon, including the right to file foreign applications directly in the name of Assignee and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by Assignee and its successors and assigns for their use and benefit and of their successors and assigns as fully and entirely as the same would have been held and enjoyed by us had this assignment, transfer and sale not been made. We do hereby authorize and request the Commissioner of Patents and Trademarks to issue United States patents on said invention to Assignee.

WE DO HEREBY COVENANT and agree with Assignee that we will not execute any writing or do any act whatsoever conflicting with the terms of this assignment document set forth herein, and that we will at any time upon request, without further or additional consideration, but at the expense of the Assignee, execute such additional assignments and other writings and do such additional acts as the Assignee may deem necessary or desirable to perfect the Assignee's enjoyment of this assignment, and render all necessary assistance in making application for and obtaining patents of the United States and of any and all foreign countries on the invention,

M METHODS AND APPARATUS FOR STORING TREE DATA STRUCTURES AMONG AND WITHIN MULTIPLE MEMORY CHANNELS ASSIGNMENT PAGE 1 of 2

> PATENT REEL: 013732 FRAME: 0772

including, but not limited to, provisional applications, non-provisional applications, continuations, continuations-in-part, divisionals, reissues, renewals, and extensions, and in enforcing any rights or choses in action accruing as a result of such applications or patents, and by executing statements and other affidavits, including executing all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding said letters patent, or for the purpose of protecting title to said invention or letters patent therefore, it being understood that the foregoing covenant and agreement shall bind, and inure to the benefit of, the assigns and legal representatives of all parties hereto.

WE have hereunder set our hands on the dates shown below.

Date 01/31/2003

VIIAY RANGARAJAN

 $D_{ate} = 1/31/03$

SHYAMSUNDAR N. MANIYAR

Date //31/2083

WILLIAM N EATHERTON

M METHODS AND APPARATUS FOR STORING TREE DATA STRUCTURES AMONG AND WITHIN MULTIPLE MEMORY CHANNELS ASSIGNMENT PAGE 2 of 2

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