

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
HARI SHANKAR	07/28/2014
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	NETAPP, INC.
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<b>Postal Code:</b>	94089
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	14446046
<b>CORRESPONDENCE DATA</b>	
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<b>ATTORNEY DOCKET NUMBER:</b>	112056-0563
<b>NAME OF SUBMITTER:</b>	ANTHONY C. TOPPER
<b>SIGNATURE:</b>	/Anthony C. Topper/
<b>DATE SIGNED:</b>	07/29/2014
<b>Total Attachments: 2</b>	
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### ASSIGNMENT

Whereas I, Hari Shankar, whose residence address is San Jose, CA, has made certain inventions or discoveries (or both) set forth in an application for Letters Patent of the United States of America entitled TECHNIQUE FOR SYNCHRONIZING IOMMU MEMORY DE-REGISTRATION AND INCOMING I/O DATA, identified by Cesari and McKenna File No. 112056-0563 / P01-010079.01, which application was enclosed on even date herewith; and

Whereas NetApp, Inc., whose address is 495 East Java Drive, Sunnyvale, CA, 94089, and which, together with its successors and assigns, is hereinafter called "Assignee," is desirous of acquiring the title, rights, benefits, and privileges hereinafter recited;

Now, Therefore, for valuable consideration furnished by Assignee to me, receipt and sufficiency of which I hereby acknowledge, I, hereby, without reservation:

1. Assign, transfer and convey to Assignee my entire right, title, and interest in and to said inventions and discoveries, said application for Letters Patent of the United States of America, any and all other applications for Letters Patent on said inventions and discoveries in whatsoever countries, including all divisional, renewal, substitute, continuation, continuation-in-part, and Convention applications based in whole or in part upon said inventions or discoveries, or upon said applications, and any and all Letters Patent, reissues, reexaminations, and extensions of Letters Patent granted for said inventions and discoveries or upon said applications, and every priority right that is or may be predicated upon or arise from said inventions, said discoveries, said applications, and said Letters Patent;
2. Authorize Assignee to file patent applications in any or all countries on any or all of said inventions and discoveries in my name or in the name of Assignee or otherwise as Assignee may deem advisable, under the International Convention or otherwise;
3. Authorize and request the Commissioner of Patents and Trademarks of the United States of America and the empowered officials of all other governments to issue or transfer all said Letters Patent to Assignee, as assignee of the entire right, title, and interest therein or otherwise as Assignee may direct;
4. Warrant that I have not knowingly conveyed to others any right in said inventions, discoveries, applications, or patents or any license to use the same or to make, use, or sell anything embodying or utilizing any of said inventions or discoveries; and that I have good right to assign the same to Assignee without encumbrance;
5. Bind my heirs, legal representatives and assigns, as well as myself, to do, upon Assignee's request and at Assignee's expense, but without additional consideration to me or them, all acts reasonably serving to assure that the said inventions and discoveries, the said patent applications, and the said Letters Patent shall be held and enjoyed by Assignee as fully and entirely as the same could have been held and enjoyed

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by me, my heirs, legal representatives, and assigns if this assignment had not been made; and particularly to execute and deliver to Assignee all lawful application documents including petitions, specifications, and oaths, and all assignments, disclaimers, and lawful affidavits in form and substance as may be requested by Assignee; to communicate to Assignee all facts known to me relating to said inventions and discoveries or the history thereof; and to furnish Assignee with any and all documents, photographs, models, samples, and other physical exhibits in my control or in the control of my heirs, legal representatives or assigns which may be useful for establishing the facts of my conceptions, disclosures, and reduction to practice of said inventions and discoveries.

In testimony of which I have executed this Assignment on the date indicated next to my name.

7/28/2014  
Date

Heeri Shankar  
Hari Shankar, Inventor