

<b>PATENT ASSIGNMENT COVER SHEET</b>
--------------------------------------

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5828659

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
JAMES PHILIP WITTIG	11/08/2019
JARED CANTWELL	11/18/2019
MARK OLSON	11/05/2019
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	NETAPP, INC.
<b>Street Address:</b>	1395 CROSSMAN AVE.
<b>City:</b>	SUNNYVALE
<b>State/Country:</b>	CALIFORNIA
<b>Postal Code:</b>	94089
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16688556
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(617)951-3927
<i>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.</i>	
<b>Phone:</b>	6179512500
<b>Email:</b>	docket@c-m.com
<b>Correspondent Name:</b>	CESARI AND MCKENNA, LLP
<b>Address Line 1:</b>	ONE LIBERTY SQUARE, SUITE 310
<b>Address Line 4:</b>	BOSTON, MASSACHUSETTS 02109
<b>ATTORNEY DOCKET NUMBER:</b>	112056-0680
<b>NAME OF SUBMITTER:</b>	ANTHONY C. TOPPER
<b>SIGNATURE:</b>	/Anthony C. Topper/
<b>DATE SIGNED:</b>	11/19/2019
<b>Total Attachments: 8</b>	
source=112056-0680Assignment#page1.tif	
source=112056-0680Assignment#page2.tif	
source=112056-0680Assignment#page3.tif	
source=112056-0680Assignment#page4.tif	

source=112056-0680Assignment#page5.tif

source=112056-0680Assignment#page6.tif

source=112056-0680Assignment#page7.tif

source=112056-0680Assignment#page8.tif

## ASSIGNMENT

Whereas We, James Philip Wittig, whose residence address is Boulder, CO, Jared Cantwell, whose residence address is Boulder, CO, and Mark Olson, whose residence address is Longmont, CO, have made certain inventions or discoveries (or both) set forth in an application for Letters Patent of the United States of America entitled DEGRADED REDUNDANT METADATA, DRuM, TECHNIQUE, identified by Cesari and McKenna File No. 112056-0680 / P-011188-US, which application was enclosed on even date herewith; and

Whereas NetApp, Inc., whose address is 1395 Crossman Ave., 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 us, receipt and sufficiency of which we hereby acknowledge, we, hereby, without reservation:

1. Assign, transfer and convey to Assignee our 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 provisional, 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 our names 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 we 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 we have good right to assign the same to Assignee without encumbrance;
5. Bind our heirs, legal representatives and assigns, as well as ourselves, to do, upon Assignee's request and at Assignee's expense, but without additional consideration to us 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

by us, our 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 us 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 our control or in the control of our heirs, legal representatives or assigns which may be useful for establishing the facts of our conceptions, disclosures, and reduction to practice of said inventions and discoveries.

In testimony of which we have executed this Assignment on the dates indicated next to our names.

Nov 8, 2019

Date

James Philip Wittig  
James Philip Wittig (Nov 8, 2019)

James Philip Wittig, Inventor

Date

Jared Cantwell, Inventor

Date

Mark Olson, Inventor

Date

NetApp, Inc., Assignee

## ASSIGNMENT

Whereas We, James Philip Wittig, whose residence address is Boulder, CO, Jared Cantwell, whose residence address is Boulder, CO, and Mark Olson, whose residence address is Longmont, CO, have made certain inventions or discoveries (or both) set forth in an application for Letters Patent of the United States of America entitled DEGRADED REDUNDANT METADATA, DRuM, TECHNIQUE, identified by Cesari and McKenna File No. 112056-0680 / P-011188-US, which application was enclosed on even date herewith; and

Whereas NetApp, Inc., whose address is 1395 Crossman Ave., 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 us, receipt and sufficiency of which we hereby acknowledge, we, hereby, without reservation:

1. Assign, transfer and convey to Assignee our 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 provisional, 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 our names 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 we 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 we have good right to assign the same to Assignee without encumbrance;
5. Bind our heirs, legal representatives and assigns, as well as ourselves, to do, upon Assignee's request and at Assignee's expense, but without additional consideration to us 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

by us, our 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 us 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 our control or in the control of our heirs, legal representatives or assigns which may be useful for establishing the facts of our conceptions, disclosures, and reduction to practice of said inventions and discoveries.

In testimony of which we have executed this Assignment on the dates indicated next to our names.

\_\_\_\_\_  
Date

\_\_\_\_\_  
James Philip Wittig, Inventor

\_\_\_\_\_  
Nov 18, 2019

\_\_\_\_\_  
*Jared Cantwell*  
Jared Cantwell (Nov 18, 2019)

\_\_\_\_\_  
Date

\_\_\_\_\_  
Jared Cantwell, Inventor

\_\_\_\_\_  
Date

\_\_\_\_\_  
Mark Olson, Inventor

\_\_\_\_\_  
Date

\_\_\_\_\_  
NetApp, Inc., Assignee

## ASSIGNMENT

Whereas We, James Philip Wittig, whose residence address is Boulder, CO, Jared Cantwell, whose residence address is Boulder, CO, and Mark Olson, whose residence address is Longmont, CO, have made certain inventions or discoveries (or both) set forth in an application for Letters Patent of the United States of America entitled DEGRADED REDUNDANT METADATA, DRuM, TECHNIQUE, identified by Cesari and McKenna File No. 112056-0680 / P-011188-US, which application was enclosed on even date herewith; and

Whereas NetApp, Inc., whose address is 1395 Crossman Ave., 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 us, receipt and sufficiency of which we hereby acknowledge, we, hereby, without reservation:

1. Assign, transfer and convey to Assignee our 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 provisional, 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 our names 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 we 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 we have good right to assign the same to Assignee without encumbrance;
5. Bind our heirs, legal representatives and assigns, as well as ourselves, to do, upon Assignee's request and at Assignee's expense, but without additional consideration to us 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

by us, our 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 us 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 our control or in the control of our heirs, legal representatives or assigns which may be useful for establishing the facts of our conceptions, disclosures, and reduction to practice of said inventions and discoveries.

In testimony of which we have executed this Assignment on the dates indicated next to our names.

\_\_\_\_\_  
Date James Philip Wittig, Inventor

\_\_\_\_\_  
Date Jared Cantwell, Inventor

Nov 5, 2019  
\_\_\_\_\_  
Date Mark Olson  
Mark Olson (Nov 5, 2019)  
\_\_\_\_\_  
Mark Olson, Inventor

\_\_\_\_\_  
Date NetApp, Inc., Assignee



## ASSIGNMENT

Whereas We, James Philip Wittig, whose residence address is Boulder, CO, Jared Cantwell, whose residence address is Boulder, CO, and Mark Olson, whose residence address is Longmont, CO, have made certain inventions or discoveries (or both) set forth in an application for Letters Patent of the United States of America entitled DEGRADED REDUNDANT METADATA, DRuM, TECHNIQUE, identified by Cesari and McKenna File No. 112056-0680 / P-011188-US, which application was enclosed on even date herewith; and

Whereas NetApp, Inc., whose address is 1395 Crossman Ave., 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 us, receipt and sufficiency of which we hereby acknowledge, we, hereby, without reservation:

1. Assign, transfer and convey to Assignee our 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 provisional, 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 our names 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 we 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 we have good right to assign the same to Assignee without encumbrance;

5. Bind our heirs, legal representatives and assigns, as well as ourselves, to do, upon Assignee's request and at Assignee's expense, but without additional consideration to us 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


by us, our 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 us 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 our control or in the control of our heirs, legal representatives or assigns which may be useful for establishing the facts of our conceptions, disclosures, and reduction to practice of said inventions and discoveries.

In testimony of which we have executed this Assignment on the dates indicated next to our names.

\_\_\_\_\_  
Date James Philip Wittig, Inventor

\_\_\_\_\_  
Date Jared Cantwell, Inventor

\_\_\_\_\_  
Date Mark Olson, Inventor

Nov 6, 2019  
\_\_\_\_\_  
Date   
Liz Weiner (Nov 6, 2019)  
\_\_\_\_\_  
NetApp, Inc., Assignee