Mail Stop: Assignment Recordation Services I Director of the U.S. Patent and Trademark Office P.O. Box 1450	RECORDATION FORM COVE PATENTS ONLY	R SHEET U.S. DEPARTMENT OF COMMERCE Patent and Trademark Office
Alexandria, VA 22313-1450		Attorney Docket No. 139494
Please record the attached document.		
Total number of pages including cover sheet,	attachments, and document: 12	<del></del>
1. A. Name of conveying parties: (1) Kathy VILLANI (2) Michael E. GENTRY (3) Kathryn MILLER (4) Christopher PATE (5) James E. BROMHAL (6) Justin C. KERBER (7) John M. HATCHER  B. Additional name(s) of conveying		LOCKHEED MARTIN CORPORATION 6801 ROCKLEDGE DRIVE BETHESDA, MD 20817
3. A. Nature of conveyance:	Yes 🛮 No	3. Additional name(s) & address(es) attached? ☐Yes ☒ No
	. 2009 . 2009 . 2009 . 2009 . 2009	·
	Additional numbers attached?	B. Patent No.(s)   ☐ Yes ☑ No  CES AND SMART DIRECTORY
Title of Application: ON DEN     Name and address of party to whom co concerning document should be mailed.	rrespondence 6.	Total number of applications and patents involved:
Name: <u>John S. Kern</u>	7.	Please charge Deposit Account No. 15-0461 th total fee (37 CFR 3.41) in the amount of \$40.00.
Address: OLIFF & BERRIDGE, PLO P.O. Box 320850 Alexandria, VA 2232 Phone Number: 703-836- Fax Number: 703-836-2	0-4850 6400	Credit any overpayment or charge any underpayment to deposit account number 15-0461.
9. Statement and signature. To the best of my knowledge and belied original document.	of, the foregoing information is tru	ue and correct and any attached copy is a true copy of th
John S. Kern, Registration No. 42,719		Date: December 17, 2009  PATENT
Patrick T. Muffo, Registration No. 60, 25349	,34 <i>L</i>	REEL: 023692 FRAME: 082

			ASSIG	NMENT	
		(1)	Kathy VILLANI	(5)	James E. BROMHAL
(1-8)	Insert Name(s)	(2)	Michael E. GENTRY	(6)	Justin C. KERBER
	of Inventor(s)	(3)	Kathryn MILLER	(7)	John M. HATCHER
		(4)	Christopher PATE	(8)	
(9)	Year a Nile	under	In consideration of the sum of signed, each undersigned agrees	one dollar (\$1.00 to assign, and he	and other good and valuable consideration paid to each of the creby does assign, transfer and set over to
•	Insert Name of Assignee	(9)	LOCKHEED MARTIN COR	PORATION	
(10)	Insert Address of Assignee	(10)	6801 Rockledge Drive, Bethe	sda, MD 20817	
(11)	Insert	right, applic confir	title and interest for the United S ations for patent including any a	tates of America and all provisional, plication(s), and a invention known:	
	Identification such as Title, Case				
	Number, or Foreign Application Number	(Attor	mey Docket No. 139494		)
		for wh	tich the undersigned has (have)	executed an appl	ication for patent in the United States of America on even date
(12)	Insert Date of Signing of Application	(12)	on		
(13)	Alternative Identification for	(13)	U.S. application Serial Number	± 12/588,293	
	filed applications	filed	October 9, 2009		
or contin	nons for the invention, and a ssignee may deem necessary 2) Each undersigned agree outtion or division thereof, in obtaining evidence and g 3) Each undersigned agree	ny pateni v. s to exect or any pa- soing forv s to exect	(s) issuing thereon, and also to the all papers necessary in connu- tent or reissue application based ward with such interference. ate all papers and documents an	execute separate ection with any in thereon, for the education any ac-	pplication and any continuing, divisional or reissue assignments in connection with such applications and patents iterference which may be declared concerning any application invention, and to cooperate with the Assignee in every way t which may be necessary in connection with claims or
PIOVISIO	ns of the international Conv	ention to	Protection of Industrial Proper	ty or similar agre	ements.

- d agrees to perform all affirmative acts which may be necessary to obtain, maintain or confirm by reissue or reexamination a grant of a valid United States patent to the Assignee.
- 5) Each undersigned authorizes and requests the Commissioner of the U.S. Patent and Trademark Office to issue any and all Letters Patents of the United States resulting from said application(s) to the said Assignee, as Assignee of the entire interest, and covenants that he has full right to convey the entire interest herein assigned, and that he has not executed, and will not execute, any agreements in conflict herewith, and agrees that this assignment is binding on him and his heirs, successors, assigns and legal representatives.
- may

Date 11/18/200	Inventor Signature	(SEAL)
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ite	Inventor Signature	(SEAL)
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	Inventor Signature	
is assignment should preferab ould be signed before at least	ly be signed before: (a) a Notary Public if within the U.S.A. (b) a U.S. C wo witnesses who also sign here:	
ite <u>  11/18/20</u>	109 Witness Constance	L. Chexman
ite	Witness	

## ASSIGNMENT

		(1)	Kathy VII.LANI	(5)	James E. BROMHAL
(1-8)	Insert	(2)	Michael E. GENTRY	(6)	Justin C. KERBER
	Name(s) of Inventor(s)	(3)	Kathryn MILLER	(7)	John M. HATCHER
		(4)	Christopher PATE	(8)	
		to eac	In consideration of the sum of one b of the undersigned, each undersigned.	dollar (\$1.00) gned agrees to	and other good and valuable consideration paid assign, and hereby does assign, transfer and set
(9)	Insert Name of Assignee	(9)	LOCKHEED MARTIN CORPO	IR ATTION:	
(10)	Insert Address of Assignee	(10)	6801 Rockledge Drive, Bethesda		
		the ent invention	ire right, title and interest for the Union, and in all applications for paten uation, international, confirmation, s	nited States of A at including any substitute and a	eirs, successors, assigns and legal representatives, America as defined in 35 U.S.C. §100, in the and all provisional, non-provisional, divisional, reissue application(s), and all Letters Patent, hay be granted on the invention known as
(11)	Insert Identification such as Title, Case	(11)	ON DEMAND VISIBILITY SEE	RVICES AND	SMART DIRECTORY
	Number, or Foreign Application Number	(Attor	ney Docket No. 139494		
		for wh	ich the undersigned has (have) exe n date herewith or	cuted an appli	cation for patent in the United States of America
(12)	Insert Date of Signing of Application	(12)	on		
(13)	Alternative Identification for filed applications	(13) filed	U.S. application Serial Number October 9, 2009	12/588,293	·
any appute any appute Ass claims reexami Patents full righ and agr identific recorda	applications for the inventior titions and patents as the Assig 2) Each undersigned agree of the patents of the continuation or displace in every way possible in 3) Each undersigned agrees or provisions of the Internation 4) Each undersigned agrees ination a grant of a valid Unit 5) Each undersigned author of the United States resulting in to convey the entire interesses that this assignment is bin 6) Each undersigned berebication that may be necessary tion of this document.  In witness whereof, executions	n, and any mee may s to execu- vision thin obtaining to execu- onal Convisto performed States and g from sait therein a noting on y grants to desiral	patent(s) issuing thereon, and also deem necessary.  the all papers necessary in connection ereof, or any patent or reissue appliance evidence and going forward with the all papers and documents and patention for Protection of Industrial erm all affirmative acts which may be patent to the Assignee.  requests the Commissioner of the dapplication(s) to the said Assigned, and that he has not execut him and his heirs, successors, assigned mad his heirs, successors, assigned in order to comply with the rule e undersigned on the date(s) opposition.  Inventor Signature	on with any in ication based to he such interferent form any act. Property or single necessary to U.S. Patent and ee, as Assigned the such and will not gen and legal not the power to as of the United osite the unde	which may be necessary in connection with milar agreements.  o obtain, maintain or confirm by reissue or d Trademark Office to issue any and all Letters e of the entire interest, and covenants that he has ot execute, any agreements in conflict herewith, epresentatives.  o insert on this assignment any further d States Patent and Trademark Office for
Date	11/16/2009		Inventor Signature	Michael	(SEAL)
Date Date			Inventor Signature		(SEAL)
Date	11/16/2009		Inventor Signature Inventor Signature >	ER 0.	(SEAL)
Date		-	Inventor Signature		(SEAL)

PATENT REEL: 023692 FRAME: 0851

(SEAL)

Inventor Signature (SEAL)

Inventor Signature

12/17/2009 15:39 FAX 703 836 2787

OLIFF BERRIDGE

**᠒**0004/0012

This assignment should preferably be signed before: (a) a Notary Public if within the U.S.A. (b) a U.S. Consul if outside the U.S.A. If neither, then it should be signed before at least two witnesses who also sign here:

Witness Ducker

Witness

CONSTANCE L. CHAPMAN Notary Public Commonwealth of Virginia 166434 My Commission Expires Apr 30, 2011

**PATENT** 

### **ASSIGNMENT**

		(1)	Kathy VILLANI	(5)	James E. BROMHAL	
(1-8)	Insert	(2)	Michael E. GENTRY	(6)	Justin C. KERBER	
	Name(s) of Inventor(s)	(3)	MICHAEL C. CONTRI	(7)	JUSTIN C. READER	
		-	Kathryn MILLER		John M. HATCHER	
		(4)	Christopher PATE	(8)	A.D	
					and other good and valuable consideration paid assign, and hereby does assign, transfer and set	
	Assignee (9) LOCKHEED MARTIN CORPORATION					
	Insert Address of Assignee	(10)	6801 Rockledge Drive, Bethesda, I			
		the entire invention continua	re right, title and interest for the Unit on, and in all applications for patent i ation, international, confirmation, su	ed States of A neluding any bstitute and re	eirs, successors, assigns and legal representatives, America as defined in 35 U.S.C. §100, in the and all provisional, non-provisional, divisional, eissue application(s), and all Letters Patent, ay be granted on the invention known as	
	osert Jentification	(11)	ON DEMAND VISIBILITY SERV	ICES AND	SMART DIRECTORY	
	uch as Title, Case (umber, or Foreign	-				
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			ch the undersigned has (have) execu date herewith or	ited an applic	cation for patent in the United States of America	
Si	nsert Date of igning of pplication	(12)	on			
	lternative	(13)	U.S. application Serial Number _	12/588,293		
	dentification for led applications	filed	October 9, 2009			
reissue appi application: 2) any applica the Assigne 3) claims or pi 4) reexaminati 5) Patents of t full right to and agrees 6) identification	lications for the invention, s and patents as the Assign Each undersigned agrees a tition or continuation or divide in every way possible in Each undersigned agrees a rovisions of the Internation Each undersigned agrees a tion a grant of a valid Unite Each undersigned authorithe United States resulting to convey the entire interest that this assignment is bind Each undersigned hereby	and any ee may d to execut ision ther obtaining to execut al Conve to perfee d State area and r from saic therein as ling on h grants th	patent(s) issuing thereon, and also to leem necessary.  e all papers necessary in connection reof, or any patent or reissue applies govidence and going forward with a e all papers and documents and per ention for Protection of Industrial Promail affirmative acts which may be patent to the Assignee.  requests the Commissioner of the Urla application(s) to the said Assignee signed, and that he has not execute itm and his heirs, successors, assign	with any in ation based to such interfer form any act operty or sir necessary to.  S. Patent and, as Assigned d, and will not the power to the power	which may be necessary in connection with nilar agreements, obtain, maintain or confirm by reissue or d Trademark Office to issue any and all Letters e of the entire interest, and covenant, that he has of execute, any agreements in similicit berewith, expresentatives.	
			undersigned on the date(s) oppos	site the unide	ersigned (name(s)	
	20 Nov 00		Inventor Signature	-att	U T MULLET CONTRACTOR	<b>V</b>
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NOTARY PUBLIC FOR STATE OF ILLINOIS
PATENT

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OLIFF BERRIDGE

**☑** 0006/0012

This assignment should preferably be signed before: (a) a Notary Public if within the U.S.A. (b) a U.S. Consul if outside the U.S.A. If neither, then it should be signed before at least two witnesses who also sign here:

Date 11/20/2009

Witness

Witness

**PATENT** 

## ASSIGNMENT

		(1)	Kathy VILLANI	(5)	James E. BROMHAL			
(1-8)	Insert	(2)	Michael E. GENTRY	(6)	Justin C. KERBER			
	Name(s) of Inventor(s)	(3)	Kathryn MILLER	(7)	John M. HATCHER			
		(4)	Christopher PATE	(8)				
			In consideration of the sum of or h of the undersigned, each unders o					
(9) (10)	Insert Name of Assignee Insert Address of	(9)	LOCKHEED MARTIN CORP	ORATION				
(10)	Assignee	(10)	6801 Rockledge Drive, Bethesda, MD 20817					
		the ent invent contin	nafter designated as the Assignee) tire right, title and interest for the Valon, and in all applications for pate uation, international, confirmation ions, reissues and reexamination c	United States of A ent including any , substitute and n	America as defined in 35 U and all provisional, non-pa eissue application(s), and a	.S.C. §100, in the rovisional, divisional, divisional, divisional, divisional, all Letters Patent,		
(11)	Insert Identification such as Title, Case	(11)	ON DEMAND VISIBILITY SI	ERVICES AND	SMART DIRECTORY			
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(13)	Alternative Identification for filed applications	(13) filed	U.S. application Serial Number October 9, 2009	12/588,293	·········			
any application any application and application and applications of reexamined and agreements of full right and agreements of the application and appl	1) Each undersigned agrees pplications for the invention ons and patents as the Assign 2) Each undersigned agrees ication or continuation or disgnee in every way possible in 3) Each undersigned agrees reprovisions of the Internation 4) Each undersigned agrees nation a grant of a valid Unit 5) Each undersigned author of the United States resulting to convey the entire interest test that this assignment is bin 6) Each undersigned hereby ation that may be necessary of this document.	and any to executision the obtains to execute to perform the distance of the performance	ute all papers necessary in conner y patent(s) issuing thereon, and a deem necessary.  ute all papers necessary in conner erecof, or any patent or reissue ap ng evidence and going forward we ute all papers and documents and vention for Protection of Industriorm all affirmative acts which mas patent to the Assignee.  I requests the Commissioner of the dapplication(s) to the said Assigned, and that he has not execution and his heirs, successors, as the firm of OLIFF & BERRIDGE, the in order to comply with the remarked page 1.	ction with any in plication based to with such interfer perform any act al Property or sir by be necessary to the U.S. Patent an gnee, as Assignecuted, and will nessigns and legal r PLC the power to ules of the Unite	parate assignments in conterference which may be of hereon, for the invention, ence.  which may be necessary milar agreements.  by obtain, maintain or confid Trademark Office to isse of the entire interest, and texcute, any agreement epresentatives.  Insert on this assignment of States Patent and Trader	lectared concerning and to cooperate with in connection with important with important with it is a second		
Date	11/17/09	<del></del>	Inventor Signature	-SAGI	1 Plan	BONNIE K. SCHAD		
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Date						MY COMMISSION EXPIRES SEPT. 19, 20		
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Date			Inventor Signature		······································	(SEAL)		
Date			Inventor Signature			(SEAL)		

PATENT REEL: 023692 FRAME: 0855 12/17/2009 15:40 FAX 703 836 2787

OLIFF BERRIDGE

**2**0008/0012

This assignment should preferably be signed before: (a) a Notary Public if within the U.S.A. (b) a U.S. Consul if outside the U.S.A. If neither, then it should be signed before at least two witnesses who also sign here:

ate November 17 2009

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**PATENT** 

			ASSIGNMI	ENT		
		(1)	Kathy VILLANI	(5)	James E. BROMHAL	
(1-8)	Insert	(2)	Michael E. GENTRY	(6)	Justin C. KERBER	_
	Name(s) of Inventor(s)	(3)	Kathryn MILLER	(7)	John M. HATCHER	_
		(4)	Christopher PATE	(8)		_
		to eacl	n of the undersigned, each under	ne dollar (\$1.00) signed agrees to	and other good and valuable consideration paid assign, and hereby does assign, transfer and set	_
(9)	Insert Name of Assignee	(9)	LOCKHEED MARTIN CORE	PORATION		
(10)	Insert Address of Assignee	(10)	6801 Rockledge Drive, Bethe			_
(11)	Insert	the ent inventi continu	ire right, title and interest for the ion, and in all applications for pat lation, international, confirmation	United States of A tent including any n, substitute and re certificates that m	eirs, successors, assigns and legal representatives, America as defined in 35 U.S.C. §100, in the and all provisional, non-provisional, divisional, eissue application(s), and all Letters Patent, ay be granted on the invention known as	
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		for wh	<del></del>	executed an appli	cation for patent in the United States of America	)
(12)	Insert Date of Signing of Application	(12)	on <u>////</u>	2009		_
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	filed applications	filed	October 9, 2009			_
applicat any app the Assi claims of reexami Patents full righ and agro identific	applications for the invention ions and patents as the Assi 2) Each undersigned agree lication or continuation or dignee in every way possible; 3) Each undersigned agree or provisions of the Internati 4) Each undersigned agree nation a grant of a valid Unit 5) Each undersigned author of the United States resulting a to convey the entire interest to convey the entire interest that this assignment is bit 6) Each undersigned heret	m, and any gree may gree may gree may gree it is executed in obtaining the control on all Converses to perform said from said in the control on the control of the control on the control of the control	patent(s) issuing thereon, and a deem necessary. It all papers necessary in connecesor, or any patent or reissue aping evidence and going forward vite all papers and documents and ention for Protection of Industrium all affirmative acts which man patent to the Assignee. requests the Commissioner of the dapplication(s) to the said Assisting and that he has not exemble the control of the control	also to execute se- ction with any in polication based to with such interfer- il perform any act al Property or sin my be necessary to me U.S. Patent and gnee, as Assigned cuted, and will no ssigns and legal re PLC the power to	which may be necessary in connection with nilar agreements.  obtain, maintain or confirm by reissue or  d Trademark Office to issue any and all Letters to of the entire interest, and covenants that he has at execute, any agreements in conflict herewith	·
			e undersigned on the date(s) o			
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Inventor Signature Date Inventor Signature Date Inventor Signature (SEAL) Date Inventor Signature (SEAL) Date Inventor Signature (SEAL) Date **Inventor Signature** Date **Inventor Signature** (SEAL) Date Inventor Signature (SEAL) 12/17/2009 15:40 FAX 703 836 2787

OLIFF BERRIDGE

**☑** 0010/0012

This assignment should preferably be signed before: (a) a Notary Public if within the U.S.A. (b) a U.S. Consul if outside the U.S.A. If neith then it should be signed before at least two witnesses who also sign here:
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See Attachment for Notary

# CALIFORNIA ALL-PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

	MORNO WEEDOWENT
State of California	
County of Juta Barbara	
County of YIM DUY CO	
On NOV 17, 2009 before me, Shan personally appeared John M.	MDKNER/19, MA tay Pub/ic.  (Here insert name and title of the officer)  Hatcher,
who proved to me on the basis of satisfactory evi	dence to be the person(s) whose name(s)(s) are subscribed to
the within instrument and acknowledged to me the	hat he/the/they executed the same in his/her/their authorized on the instrument the person(s), or the entity upon behalf of
I certify under PENALTY OF PERJURY under the	he laws of the State of California that the foregoing paragraph
is true and correct.	beregine
	SHARON D. WINDERS
WITNE88 my hand and official seal.	Commission # 1788899  Notary Public - California
Rung ling	Santa Sarbara County
Signature of Modary Public	(Notary Seal)
	•
ADDITIONAL O	PTIONAL INFORMATION
,	INSTRUCTIONS FOR COMPLETING THIS FORM Any acknowledgment completed in California must contain verbiage exactly as
DESCRIPTION OF THE ATTACHED DOCUMENT	appears above in the notary section or a separate acknowledgment form must be properly completed and attached to that document. The only exception is if a
4587 gnment	document is to be recorded outside of California. In such instances, any alternative acknowledgment verbiage as may be printed on such a document so long as the
(Title or differiption of attached document)	verbiage does not require the notary to do something that is illegal for a notary in
(Title or description of attached document continued)	California (i.e. certifying the authorized capacity of the signer). Please check the document carefully for proper notarial wording and attach this form if required.
Number of Pages 2 Document Date 11/17/19	State and County information must be the State and County where the document
Number of Fages Document Date 1777/11	<ul> <li>signer(s) personally appeared before the notary public for acknowledgment.</li> <li>Date of notarization must be the date that the signer(s) personally appeared which</li> </ul>
(Additional information)	must also be the same date the acknowledgment is completed.  The notary public must print his or her name as it appears within his or her
( Total One Madaday)	commission followed by a comma and then your title (notary public).
	<ul> <li>Print the name(s) of document signer(s) who personally appear at the time of notarization.</li> </ul>
CAPACITY CLAIMED BY THE SIGNER  Individual (s)	<ul> <li>Indicate the correct singular or plural forms by crossing off incorrect forms (i.e. he/she/they, is /are) or circling the correct forms. Failure to correctly indicate this</li> </ul>
☐ Corporate Officer	<ul> <li>information may lead to rejection of document recording.</li> <li>The notary seal impression must be clear and photographically reproducible.</li> </ul>
(Titte)	Impression must not cover text or lines. If seal impression smudges, re-seal if a sufficient area permits, otherwise complete a different acknowledgment form.
Partner(s)	<ul> <li>Signature of the notary public must match the signature on file with the office of</li> </ul>
☐ Attorney-in-Fact	the county clerk.
☐ Prustee(s)	<ul> <li>Additional information is not required but could help to ensure this</li> </ul>
Other	<ul> <li>Additional information is not required but could help to ensure this acknowledgment is not misused or attached to a different document.</li> <li>Indicate title or type of attached document, number of pages and date.</li> </ul>

2008 Version CAPA v12.10.07 800-873-9865 www.NotaryClasses.com

PATENT REEL: 023692 FRAME: 0859

· Securely attach this document to the signed document

Subscribed and sworn to before me this 17<sup>th</sup> day of November, 2009 by Christopher Pate on document titled Application for United States Patent Declaration page 2.

Motary Public

"OFFICIAL SEAL"
BONNIE K. SCHAD
NOTARY PUBLIC—STATE OF ILLINOIS
MY COMMISSION EXPIRES SEPT. 19, 2013

Subscribed and sworn to before me this 17<sup>th</sup> day of November, 2009 by Justin C. Kerber on document titled Application for United States Patent Declaration page 3.

Notary Public

\*OFFICIAL SEAL\*
BONNIE K. SCHAD
NOTARY PUBLIC—STATE OF ILLINOIS
MY COMMISSION EXPIRES SEPT. 19, 2013

PATENT REEL: 023692 FRAME: 0860

**RECORDED: 12/17/2009**