09/07/2019 11:20 a. m. LLEON
ASUNTO COMUNICACION - FACTURAS -
DEST MARTHA LENNIS SANCHEZ PINZON
DEPEND GRUPO DE CONTRATACION Y
COMPAÑIA STORAGE AVAILABILITY SOLUTIONS
REMITENTE STORAGE AVAILABILITY SOLUTIONS
CONSECUTIVO 20190061608 - 0000000 - 000
FOLIOS 11

CAJA DE RETIRO DE LAS FF.MM
20407876
No. COMUNICACION 830144762-3
[Recibido]

Storage Availability Solutions
Innovando en T.I.

Pagina: 1 of 1

FACTURA DE VENTA No 3864

STORAGE AVAILABILITY SOLUTIONS S.A.S
NIT 830144762-3
CR 15 N° 93 A 62 OF 404
TEL: (571)7123960-7123962
BOGOTÁ COLOMBIA

NO SOMOS AUTORETENEDORES
RÉGIMEN COMÚN
NO SOMOS GRANDES CONTRIBUYENTES
ACTIVIDAD ECONOMICA ICA 6202 TARIFA 6.9 POR MIL

FACTURACION EMITIDA POR COMPUTADOR RESOLUCION DIAN No 18762009024861 del 5 de julio de 2018 Habilita del No. 3393 al 4000 y RESOLUCION DIAN No. 13028010453821 del 5 de julio de 2018 Autoriza del No. 4001 al 5000

CLIENTE	CAJA DE RETIRO DE LAS FUERZAS MILITARES	**DOCUMENTO REFERENCIA**	CT-301-1
NIT	899999118-1	**ORDEN COMPRA CLIENTE**	MC-020-2019
DIRECCIÓN	KA 10 27 27 PI 2 BRR CENTRO INTERNACIONAL	**FECHA**	8/07/2019
TELÉFONO	353 7300 X7343	**CONDICIÓN DE PAGO**	15 DIAS
CIUDAD	BOGOTA D.C.	**VENCIMIENTO**	23/07/2019
DIRIGIDO A	ENRIQUE CRISTANCHO	**CLIENTE FINAL**	CAJA DE RETIRO DE LAS FUERZAS MILITARES
PROYECTO	510		

PRODUCTO	DESCRIPCIÓN	CANTIDAD	UNIDAD	VALOR UNITARIO	VALOR TOTAL
10802002	VERITAS SOPORTE Y MANTENIMIENTO SOFTWARE	1,00	UNIDAD	53.711.730,74	53.711.730,74
10801001	HP SOPORTE Y MANTENIMIENTO HARDWARE	1,00	UNIDAD	12.758.857,50	12.758.857,50

RNV SOPORTE VERITAS Y HP

Favor Transferir a la Cuenta Corriente No. 0591941011 de Citibank a nombre de Storage Availability Solutions

SON: Setenta y nueve millones cien mil pesos colombianos con uno centavos

SUBTOTAL	66.470.588,24
DESCUENTOS	0,00
IVA	12.629.411,77
TOTAL	79.100.000,01

ACEPTADA FIRMA Y SELLO

Esta factura de venta se asimila en todos sus efectos legales a la letra de cambio. Después de 10 días de radicada se considera irrevocablemente aceptada. El incumplimiento total o parcial en el pago generará intereses de mora a la tasa máxima legal permitida, a partir de la fecha de vencimiento.

Storage Availability Solutions
Innovando en T.I.

FACTURA DE VENTA No 3864

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NIT 830144762-3
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NIT	899999118-1	**ORDEN COMPRA CLIENTE**	MC-020-2019
DIRECCIÓN	KA 10 27 27 PI 2 BRR CENTRO INTERNACIONAL	**FECHA**	8/07/2019
TELÉFONO	353 7300 X7343	**CONDICIÓN DE PAGO**	15 DIAS
CIUDAD	BOGOTA D.C.	**VENCIMIENTO**	23/07/2019
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CERTIFICACION

Yo CAMILO REY FORERO, identificado con la Cedula de Ciudadanía No.80.197.914, en mi calidad de Revisor Fiscal, de la empresa Storage Availability Solutions SAS con NIT No. 830.144.762 (en adelante "**la empresa**") manifiesto que **la empresa** ha cumplido durante los seis (6) meses anteriores a la fecha de entrega de la presente certificación, con los pagos al sistema de seguridad social en salud, pensiones y riesgos profesionales y con los aportes parafiscales correspondientes a todos sus empleados vinculados por contrato de trabajo, por lo que declaro que se encuentra a PAZ Y SALVO con las Empresas Promotoras de Salud -EPS-, Fondos de Pensiones, Administradoras de Riesgos Profesionales -ARP-, Caja de Compensación Familiar, Instituto Colombiano de Bienestar Familiar -ICBF- y Servicio Nacional de Aprendizaje - SENA. Al igual que los pagos devengados de la relación laboral que todos sus empleados tienen con la empresa.

Esta Certificación se expide a los 2 días de Julio de 2019.

CAMILO REY FORERO
Revisor Fiscal
T.P. 139.097 - T

CERTIFICACION

Yo CAMILO REY FORERO, identificado con la Cedula de Ciudadanía No.80.197.914, en mi calidad de Revisor Fiscal, de la empresa Storage Availability Solutions SAS con NIT No. 830.144.762 (en adelante "la empresa") manifiesto que la empresa ha cumplido durante los seis (6) meses anteriores a la fecha de entrega de la presente certificación, con los pagos al sistema de seguridad social en salud, pensiones y riesgos profesionales y con los aportes parafiscales correspondientes a todos sus empleados vinculados por contrato de trabajo, por lo que declaro que se encuentra a PAZ Y SALVO con las Empresas Promotoras de Salud -EPS-, Fondos de Pensiones, Administradoras de Riesgos Profesionales -ARP-, Caja de Compensación Familiar, Instituto Colombiano de Bienestar Familiar -ICBF- y Servicio Nacional de Aprendizaje - SENA. Al igual que los pagos devengados de la relación laboral que todos sus empleados tienen con la empresa.

Esta Certificación se expide en Bogotá D.C, a la fecha 01 de Agosto de 2019.



CAMILO REY FORERO
Revisor Fiscal
T.P. 139.097 - T

República de Colombia
Ministerio de Comercio Industria y Turismo

JUNTA CENTRAL DE CONTADORES
TARJETA PROFESIONAL
DE CONTADOR PUBLICO



139097-T

CAMILO
REY FORERO
C.C. 80197914
RESOLUCION INSCRIPCION 342 FECHA 04/12/2008
UNIVERSIDAD EXTERNADO DE COLOMBIA

PRESIDENTE

LUIS ALONSO COLMENARES RODRIGUEZ 149361

62418

FIRMA DEL TITULAR

Esta tarjeta es el único documento que lo acredita como CONTADOR PUBLICO de acuerdo con lo establecido en la Ley 43 de 1990.
Agradecemos a quien encuentre esta tarjeta devolverla al Ministerio de Comercio Industria y Turismo - Junta Central de Contadores.

Anexo de Precios

Hewlett Packard Enterprise

Clave de Contrato: STORAGE-CAJAFM
Número de Contrato (CSSA):

Dirección del Cliente
STORAGE AVAILABILITY SOLUTIONS SAS
CR 15 93A 62 OF 404
BOGOTA DC
Colombia

Dirección HPE
Hewlett Packard Colombia Ltda.
Cra. 7 No. 99-53
Bogotá
Tel:571-639-0000
Fax:571-639-0912

Atención:
DAVID LINARES
Tel: (571) 4863317
Fax:
E-mail: david.linares@gstcolombia.com

Contacto en HPE:
Kenneth Campos
E-mail: kcampos@hpe.com

Esta propuesta se rige por el contrato firmado entre Hewlett Packard Enterprise y el cliente. En caso contrario, aplicarán los términos estándar de HPE y los descriptivos de servicios que se adjuntan a la presente propuesta.

- Términos estándar: www.hpe.com/docs/customerterms
- Datasheets(Inglés): www.hpe.com/info/mktlibrary

Las siguientes son las opciones de acceso a soporte para los clientes bajo Contrato de Servicio:
- **Administre su Contrato de servicio en línea, visite:** https://s360.hpe.com / https://esam.hpe.com
- **Centro de soporte HPE:** www.hpe.com/support/hpesc

Tenga disponible su número de serie, número de producto e ID de su Contrato de Servicio para agilizar los servicios solicitados.

Contrato de Soporte	Nivel de Soporte:	Periodo de Cobertura: Inicio	Término	Descripción:	Precio del Contrato/US
CAJADERETLIBRARY	1043 6263 1421	01/06/2019	31/05/2020	HP MSL2024 0-DRIVE TAPE LIBRARY	

Total del Período antes de I.V.A STORAGE-CAJAFM

Firma autorizada de HPE	Fecha	Firma autorizada del Cliente	Fecha

Anexo de Precios

Hewlett Packard Enterprise

Clave de Contrato: STORAGE-CAJAFM

Identificador de Soporte: CAJADERETLIBRARY

HPE No.de Referencia 2154486950

Ubicación del Equipo:
CAJA DE RETIRO DE LAS FUERZAS
CRA 10 NO 27 27 ED BACHUE P2 OF 2
BOGOTA

Domicilio para envío de materiales de SW
CAJA DE RETIRO DE LAS FUERZAS
CRA 10 NO 27 27 ED BACHUE P2 OF 2
BOGOTA

Atención:
ENRIQUE CRISTANCHO
Tel: 3537300
Fax:

Contacto para recibir SW:
ENRIQUE CRISTANCHO
Tel: 3537300
Fax:

Vigencia Inicio 01/06/2019 Término 31/05/2020

01 800 051 4747

No. de Producto:	Descripción:	No. de Serie:	Vigencia: Inicio	Término	Cantidad:	PrecioU$

Comentarios:

"Hay un fee de RTS aplicable para este contrato y el monto está incluido en la factura del primer mes.

"Esta propuesta incluye un descuento del 12% para el Socio de Negocio HP por la Renovación de Contratos de Servicios HP para su re-venta (Indirect Fulfillment), en base a la Política Comercial vigente."

En caso de existir demoras en la aceptación de esta oferta y si sus equipos quedaran sin soporte por más de 30 días, pero desea incluirlos en contrato, se deberá realizar una Verificación de Funcionamiento a fin de garantizar la operatividad de los equipos. De encontrarse alguna falla y requerirse reemplazo de partes, dicha actividad será ejecutada y cargando según sea necesario el valor de las partes reemplazadas, se exonera el costo de Labor. En caso de aceptar esta oferta de manera retroactiva la verificación adicional no será requerida.
Productos o componentes que no estén incluidas en esta oferta no están soportados.
En caso de haber cambios en la configuración y generarse una segunda oferta, los precios presentados originalmente podrán sufrir variaciones.

[Hewlett Packard Colombia Ltda.] notificará por escrito al Cliente STORAGE AVAILABILITY SOLUTIONS SAS tan pronto sea razonablemente posible luego de efectuada la cesión, delegación, transferencia y/o novación de cualesquiera de sus derechos u obligaciones, todo de acuerdo con lo arriba previsto.

H1K92AC **HPE Proactive Care 24x7 SVC**
***** Hardware *****

HPE Capacity Reporting Dev Dep Service
Capacity Assessment Report

HPE Hardware Maintenance Onsite Support
Hardware Problem Diagnosis
Onsite Support
Parts and Material provided
4 Hr Onsite Response

Firma autorizada HPE	Fecha	Firma autorizada del Cliente	Fecha

Fecha de impresión: 26/06/2019

Hewlett Packard Enterprise

Clave de Contrato: STORAGE-CAJAFM

No. de Producto:	Descripción:	No. de Serie:	Vigencia: Inicio	Vigencia: Término	Cantidad:	PrecioUS
	24 Hrs Std Office Days 24 hrs, Day 6 24 hrs, Day 7 Holidays Covered No Usage Limitation Remote Delivery SVC Advanced Access to Adv Tech Specialists					
AK379A	HPE MSL2024 0-Drive Tape Library	MXA427Z095			1	

Discounts
Special Neg HdrDisc% -12%
Special Neg HdrDisc% -0,79%

***** Soporte a Redes*****

U9085AC	**Net Price Adjustment**	30/06/2019

Discounts
PriceAdj/Disc item 0,01USD

***** Hardware *****

UJ559AC	**HPE Storage Return to HW Supp** "Hay un fee de RTS aplicable para este contrato y el monto está incluido en la factura del primer mes"	30/06/2019

Discounts
Special Neg HdrDisc% -12%
Special Neg HdrDisc% -0,79%

***** Hardware *****

Firma autorizada HPE	**Fecha**	**Firma autorizada del Cliente**	**Fecha**

VERITAS

Renewal Order 515716279

GENUINE VERITAS CERTIFICATE

Issue Date: 27-JUN-2019
Agreement #
Customer Reference:
Disti/Cust PO: CPC-200283181
Reseller PO:
Disti/Cust PO:

Ship To:
NEXSYS DE COLOMBIA SA
CALLE 80 KILOMETRO 2 VIA COTA
COTA,CUNDINAMARCA,CO
VEMS Account: 2395176

Customer:
CAJA DE RETIRO DE LAS FUERZAS MILITARES
CARRERA 10 NUMERO 27 27 PISO 2 OFICINA 207
BOGOTA,CUND,CO
VEMS Account: 59923565

Entitlement Owner (VEMS Account)	Entitlement ID	Product Name/Description	Quantity	Support ID	Item Instance Number	Maintenance/Subscription	
						Start Date	End Date
CAJA DE RETIRO DE LAS FUERZAS MILITARES ID:59923565	A3530276748	10915-M0374-23 ESSENTIAL 12 MONTHS RENEWAL FOR NETBACKUP PLATFORM BASE COMPLETE ED XPLAT 1 FRONT END TB ONPREMISE STANDARD PERPETUAL LICENSE QTY 0 to 10 GOV	4	6683-5109-5158	48803354	07-OCT-2018	06-OCT-2019

Product is subject to the U.S. Export Administration Regulations (EAR) and diversion contrary to U.S. law is prohibited. You agree to comply with all relevant laws, including the U.S. EAR and the laws of any country from which Product is re-exported. All Veritas Product is currently prohibited for export or re-export to Cuba, North Korea, Iran, Syria and Sudan and to any country or its nationals subject to relevant embargo or sanction or to any entity or person for which an export license is required per any relevant restricted party list, without first obtaining a license. Furthermore, You will not use or allow use of Product in connection with chemical, biological, or nuclear weapons, or missiles, drones or space launch vehicles capable of delivering such weapons.

VERITAS

Renewal Order 515716279

** Indicates a Replacement Entitlement.

For ease of managing your support renewal, please retain this certificate which holds valuable reference information for you renewal transaction.

Learn more about Veritas products and services please access https://www.veritas.com

For assistance related to your product, please access http://support.veritas.com. If you have purchased support for your products from an authorized Veritas support provider, please contact that support provider directly for any technical support inquiries.

Product is subject to the U.S. Export Administration Regulations (EAR) and diversion contrary to U.S. law is prohibited. You agree to comply with all relevant laws, including the U.S. EAR and the laws of any country from which Product is re-exported. All Veritas Product is currently prohibited for export or re-export to Cuba, North Korea, Iran, Syria and Sudan and to any country or its nationals subject to relevant embargo or sanction or to any entity or person for which an export license is required per any relevant restricted party list, without first obtaining a license. Furthermore, You will not use or allow use of Product in connection with chemical, biological, or nuclear weapons, or missiles, drones or space launch vehicles capable of delivering such weapons.

VERITAS

Renewal Order 515716279

Veritas Support Certificate

This document (the "Certificate") is a legal agreement between the end user (the "Customer") and Veritas Technologies LLC and/or its subsidiaries ("Veritas"). This Certificate and the rights granted herein are only effective as to end users who have a valid license pursuant to a Veritas license agreement (the "License Agreement") for the underlying Veritas software product(s) (the "Software") for which the support offering ("Support") will be provided. This Certificate applies to the Software identified on the front of this Certificate. Capitalized terms are defined in this Certificate, the License Agreement or the Technical Support Policy.

If this Certificate applies to a consolidated order where there are multiple entitlement owners listed on the front of the Certificate, then the end user entity receiving this Certificate must provide this Certificate, including these Support terms, to each of the entitlement owners listed on the front of the Certificate.

IF CUSTOMER DOES NOT AGREE TO THESE TERMS, THEN VERITAS IS UNABLE TO PROVIDE SUPPORT TO CUSTOMER. RECEIPT OF SUPPORT INDICATES CUSTOMER'S AGREEMENT TO THESE TERMS.

Support Offerings. Commencing on the issue date, Veritas will provide Customer with Support within the Veritas region in which the Software is licensed for use as indicated in the License Agreement. Support is provided under these terms and conditions until the end date of the term purchased

1. Essential Support

- Access to technical support provided by telephone on a 24x7 basis
- Continuous Efforts (available upon request for Severity 1 cases only)
- Access to the Veritas technical support website
- Delivery of bug fixes and patches
- Upgrade Assurance

2. Basic Maintenance

- Access to technical support provided by telephone during Regional Business Hours based on the country where the Software is installed
- Access to the Veritas technical support website
- Delivery of bug fixes and patches
- Upgrade Assurance

Continuous Efforts: An Essential Support Customer may request that Veritas provide Continuous Efforts to work on a Severity 1 case. "Continuous Efforts" means that Veritas Support personnel will transfer the Customer's case around the globe, from support center to support center, using a follow-the-sun model, providing uninterrupted efforts, 24 hours a day, including weekends and holidays, to address a Severity 1 case.

Product is subject to the U.S. Export Administration Regulations (EAR) and diversion contrary to U.S. law is prohibited. You agree to comply with all relevant laws, including the U.S. EAR and the laws of any country from which Product is re-exported. All Veritas Product is currently prohibited for export or re-export to Cuba, North Korea, Iran, Syria and Sudan and to any country or its nationals subject to relevant embargo or sanction or to any entity or person for which an export license is required per any relevant restricted party list, without first obtaining a license. Furthermore, You will not use or allow use of Product in connection with chemical, biological, or nuclear weapons, or missiles, drones or space launch vehicles capable of delivering such weapons.

VERITAS

Renewal Order 515716279

Upgrade Assurance: "Upgrade Assurance" means the right to use upgrades to the Software as they become generally available to Veritas' end user customers. An upgrade is any version of the Software which has been released to the public and which replaces the prior version of the Software. All such upgraded Software is licensed to Customer for use subject to all terms and conditions, including without limitation disclaimers of warranties and limitation of liabilities, of the License Agreement. Nothing in this Certificate shall be construed as separately licensing copies of the Software or increasing the number of copies of Software licensed to Customer.

Scope of Support: Customer's technical assistance is limited to error correction resolution of Software used in a Supported Configuration. Support does not include services such as training, installation, migration, implementation and configuration services which Veritas sells under other separate offerings. Please refer to https://www.veritas.com/services for additional information regarding these and other services offered by Veritas.

• Technical Support Policy: Support will be provided in accordance with Veritas' Technical Support Policy and other support policies which may be revised and updated by Veritas from time to time without notice to Customer. Please refer to http://go.veritas.com/support-fundamentals for copies of such policies. Under Veritas' Technical Support Policy, Support may be discontinued for certain Software or a particular version of Software prior to the end date of the term purchased.

• Geographic Availability: Not all the Support offerings listed above are available in all countries or locations or for all Software.

Privacy and Data Protection. Customer recognizes that Veritas will require Customer to supply certain personal data (such as business contact names, business telephone numbers, business e-mail addresses) for Veritas to provide Support and to keep Customer apprised of Support and Software updates. Customer acknowledges that Veritas is a global organization, and such personal data may be accessible on a global basis to enable Veritas to provide Support to Customer. By providing such personal data, Customer consents to Veritas using, transferring and processing this personal data on a global basis for the purposes described above. Where Customer's processing of the personal data provided to Veritas under this Certificate is subject to the General Data Protection Regulation (EU) 2016/679, or other applicable laws that relate to the processing of personal data and privacy that may exist in the European Economic Area and/or Switzerland, Veritas shall process such personal data in accordance with the Data Processing Terms and Conditions at https://www.veritas.com/privacy. All questions and requests on privacy matters may be addressed to Veritas Technologies LLC – Privacy Program Office at Veritas' headquarters location published at veritas.com or by email at privacy@veritas.com.

Support Warranty. Veritas warrants, for a period of thirty (30) days from the date of performance of Support under this Certificate, that such Support will be performed in a manner consistent with generally accepted industry standards. For Support not performed as warranted in this provision, and, provided Customer has reported such non-conformance to Veritas within thirty (30) days of performance of such non-conforming Support, Veritas will, at its discretion, either correct any nonconforming Support or refund the relevant fees paid for the nonconforming Support. THIS IS CUSTOMER'S EXCLUSIVE REMEDY AND VERITAS' SOLE LIABILITY REGARDING THE SUPPORT WARRANTY DESCRIBED IN THIS SECTION.

DISCLAIMER OF DAMAGES. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW AND REGARDLESS OF WHETHER ANY REMEDY SET FORTH HEREIN FAILS OF ITS ESSENTIAL PURPOSE, IN NO EVENT WILL VERITAS BE LIABLE TO CUSTOMER FOR (i) ANY COSTS OF PROCUREMENT OF SUBSTITUTE OR REPLACEMENT GOODS AND SERVICES, LOSS OF PROFITS, LOSS OF USE, LOSS OF OR CORRUPTION TO DATA, BUSINESS INTERRUPTION, LOSS OF PRODUCTION, LOSS OF REVENUES, LOSS OF CONTRACTS, LOSS OF GOODWILL, OR ANTICIPATED SAVINGS OR WASTED MANAGEMENT AND STAFF TIME; OR (ii) ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL OR INDIRECT DAMAGES WHETHER ARISING DIRECTLY OR INDIRECTLY OUT OF THE PROVISION OF SUPPORT, EVEN IF VERITAS, ITS RESELLERS, SUPPLIERS OR ITS AGENTS HAS BEEN TOLD SUCH DAMAGES MIGHT OCCUR. IN NO CASE SHALL VERITAS'

Product is subject to the U.S. Export Administration Regulations (EAR) and diversion contrary to U.S. law is prohibited. You agree to comply with all relevant laws, including the U.S. EAR and the laws of any country from which Product is re-exported. All Veritas Product is currently prohibited for export or re-export to Cuba, North Korea, Iran, Syria and Sudan and to any country or its nationals subject to relevant embargo or sanction or to any entity or person for which an export license is required per any relevant restricted party list, without first obtaining a license. Furthermore, You will not use or allow use of Product in connection with chemical, biological, or nuclear weapons, or missiles, drones or space launch vehicles capable of delivering such weapons.

VERITAS

Renewal Order 515716279

LIABILITY EXCEED THE PURCHASE PRICE FOR THE SUPPORT GIVING RISE TO THE CLAIM. NOTHING IN THIS CERTIFICATE SHALL EXCLUDE OR LIMIT VERITAS' LIABILITY FOR ANY LIABILITY WHICH CANNOT BE EXCLUDED OR LIMITED BY LAW.

Autorenewal Benefit. Support includes an autorenewal benefit. Customer's Support will automatically renew for renewal periods of twelve (12) months each when the then-current term expires ("Autorenewal"). Customer may cancel Autorenewal by providing written notice to Veritas at returnsandcancellations@veritas.com at least thirty (30) days before the beginning of the next Autorenewal date. Veritas may cancel Autorenewal by providing notice either by (i) email to Customer's then-current business or technical contact or (ii) publication on veritas.com.

Unless otherwise agreed to by the parties, Veritas reserves the right to automatically invoice for each Autorenewal with an increase not to exceed up to five percent (5%) over the annualized rate Veritas charged for the prior twelve (12) month period of Support. This stated renewal cap does not apply to purchases which were made under a promotional rate or on less-than-market rates: in these situations, Veritas reserves the right to uplift renewal pricing to current market rates.

This Autorenewal benefit does not apply to Customers who cannot agree to Autorenewal under local law or governmental procurement regulation.

Integration. This Certificate, as supplemented by any relevant terms in the License Agreement not otherwise defined herein, constitutes the entire agreement between this parties pertaining to the subject matter hereof, and, except as otherwise agreed upon in writing by the parties, supersedes any and all prior written or oral agreement with respect to such subject matter.

August 2018

Product is subject to the U.S. Export Administration Regulations (EAR) and diversion contrary to U.S. law is prohibited. You agree to comply with all relevant laws, including the U.S. EAR and the laws of any country from which Product is re-exported. All Veritas Product is currently prohibited for export or re-export to Cuba, North Korea, Iran, Syria and Sudan and to any country or its nationals subject to relevant embargo or sanction or to any entity or person for which an export license is required per any relevant restricted party list, without first obtaining a license. Furthermore, You will not use or allow use of Product in connection with chemical, biological, or nuclear weapons, or missiles, drones or space launch vehicles capable of delivering such weapons.

VERITAS

Renewal Order 515691698

GENUINE VERITAS CERTIFICATE

Issue Date: 27-JUN-2019
Agreement #
Customer Reference:
Disti/Cust PO: CPC-200283285
Reseller PO:
Disti/Cust PO:

Ship To:
NEXSYS DE COLOMBIA SA
CALLE 80 KILOMETRO 2 VIA COTA
COTA,CUNDINAMARCA,CO
VEMS Account: 7001269286

Customer:
CAJA DE RETIRO DE LAS FUERZAS MILITARES
CARRERA 10 NUMERO 27 27 PISO 2 OFICINA 207
BOGOTA,CUND,CO
VEMS Account: 59923565

Entitlement Owner (VEMS Account)	Entitlement ID	Product Name/Description	Quantity	Support ID	Item Instance Number	Maintenance/Subscription	
						Start Date	End Date
CAJA DE RETIRO DE LAS FUERZAS MILITARES ID:59923565	A6838941832	21319485-M3-23 ESSENTIAL 12 MONTHS RENEWAL FOR NETBACKUP APPLIANCE 5230 APPLIANCE 14TB WITH 4 1GB ETHERNET - 2 10GB ETHERNET - 2 8GB FIBRE CHANNEL GOV	1	6683-5109-5158	46939500	07-OCT-2018	06-OCT-2019

Product is subject to the U.S. Export Administration Regulations (EAR) and diversion contrary to U.S. law is prohibited. You agree to comply with all relevant laws, including the U.S. EAR and the laws of any country from which Product is re-exported. All Veritas Product is currently prohibited for export or re-export to Cuba, North Korea, Iran, Syria and Sudan and to any country or its nationals subject to relevant embargo or sanction or to any entity or person for which an export license is required per any relevant restricted party list, without first obtaining a license. Furthermore, You will not use or allow use of Product in connection with chemical, biological, or nuclear weapons, or missiles, drones or space launch vehicles capable of delivering such weapons.

VERITAS

Renewal Order 515691698

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1. Essential Support

- Access to technical support provided by telephone on a 24x7 basis
- Continuous Efforts (available upon request for Severity 1 cases only)
- Access to the Veritas technical support website
- Delivery of bug fixes and patches
- Upgrade Assurance

2. Basic Maintenance

- Access to technical support provided by telephone during Regional Business Hours based on the country where the Software is installed
- Access to the Veritas technical support website
- Delivery of bug fixes and patches
- Upgrade Assurance

Continuous Efforts: An Essential Support Customer may request that Veritas provide Continuous Efforts to work on a Severity 1 case. "Continuous Efforts" means that Veritas Support personnel will transfer the Customer's case around the globe, from support center to support center, using a follow-the-sun model, providing uninterrupted efforts, 24 hours a day, including weekends and holidays, to address a Severity 1 case.

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Support Warranty. Veritas warrants, for a period of thirty (30) days from the date of performance of Support under this Certificate, that such Support will be performed in a manner consistent with generally accepted industry standards. For Support not performed as warranted in this provision, and, provided Customer has reported such non-conformance to Veritas within thirty (30) days of performance of such non-conforming Support, Veritas will, at its discretion, either correct any nonconforming Support or refund the relevant fees paid for the nonconforming Support. THIS IS CUSTOMER'S EXCLUSIVE REMEDY AND VERITAS' SOLE LIABILITY REGARDING THE SUPPORT WARRANTY DESCRIBED IN THIS SECTION.

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Unless otherwise agreed to by the parties, Veritas reserves the right to automatically invoice for each Autorenewal with an increase not to exceed up to five percent (5%) over the annualized rate Veritas charged for the prior twelve (12) month period of Support. This stated renewal cap does not apply to purchases which were made under a promotional rate or on less-than-market rates: in these situations, Veritas reserves the right to uplift renewal pricing to current market rates.

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August 2018

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Informe Actualización Plataforma De Respaldo Netbackup

Servicios de respaldo
Actualización plataforma de respaldo Netbackup
Caja De Retiro De Las Fuerzas Militares
Andrés Esteban García
Julio, 2019

Tabla de contenido

1. MANEJO DE VERSIONES DEL DOCUMENTO
2. RESUMEN EJECUTIVO
3. ALCANCE
4. CONFIGURACIÓN DE LA ARQUITECTURA
5. APROBACIONES

1. MANEJO DE VERSIONES DEL DOCUMENTO

A continuación, se presenta la historia de cambios controlados del presente documento.

Autor	Versión	Fecha	Descripción del cambio
Andrés Esteban García Ch.	2	02/07/2019	Emisión

2. RESUMEN EJECUTIVO

Este documento provee una descripción de las actividades realizadas en la ejecución del proyecto "Actualización plataforma de respaldo Veritas Netbackup". Durante la actualización se pasa de la versión 7.7.2 a la versión 7.7.3.

La plataforma de respaldo cuenta con los siguientes componentes:

1. Appliance 5230 con rol de Master Server (almacenamiento en disco deduplicado).

2. 11 clientes de respaldo activos (1 Solaris y 15 Windows).

3. 1 librería de respaldo LTO6.

3. ALCANCE

Se entrega en este documento la descripción de las tareas realizadas de la siguiente manera, en atención a los términos de referencia del contrato:

- Actualización Master Server Appliance 5230, pasando de versión 2.7.2 a versión 2.8.1
- Validación de consistencia de base de datos de Netbackup.
- Actualización de doce clientes de respaldo a versión 2.8.1, esto incluye nueve clientes Windows y dos Solaris. Adicional se realiza actualización del servidor Opscenter a versión 2.8.1
- Prueba de respaldo y recuperación de base de datos SQL desde cinta.
- Prueba de respaldo y recuperación de base de datos SQL desde disco.
- Integración de base de datos Oracle con la solución de respaldo.
- Auditoría general sobre las políticas de respaldo.
- Transferencia de conocimiento sobre las generalidades de la plataforma de respaldo y las mejores incluidas en la nueva versión.

4. CONFIGURACIÓN DE LA ARQUITECTURA

Beneficios:

La versión 7.7.3 de Veritas Netbackup permite mejoras en el rendimiento de la herramienta y sus opciones asociadas. Por otro lado, esta versión presenta importantes características que potencializan y amplían la capacidad de Netbackup para proteger los datos y aplicaciones de misión crítica en entornos físicos y virtualizados.

Las nuevas versiones liberadas por NetBackup también contienen cambios de cara al administrador, algunos ejemplos incluyen el soporte de nuevas plataformas, software interno con componentes mejorados, cambios en la interfaz y soporte de las funciones ampliadas.

Con la actualización realizada se mejoran los algoritmos de deduplicación en los discos del Appliance 5230 y se cambia su sistema operativo de Linux SUSE a Linux Red-Hat, con lo que se aumenta la robustez y estabilidad del sistema operativo del mismo.

Las siguientes son las actividades realizadas en el proceso de Upgrade de la plataforma de respaldo Netbackup:

Primera fase de Actualización:

Actualización del Appliance 5230 con rol de Master server **poseidon**: este es el servidor principal de la plataforma de respaldo y es el encargado de controlar las bases de datos de NBU, adicional el mismo es encargado de controlar todo el tráfico de respaldos al disco deduplicado y controla la librería de cintas de la solución.

Debido a que el Appliance se encontraba en versión 2.7.2 se debieron realizar dos fases de actualización, primero a la versión 2.7.2.1 y finalmente a la versión 2.7.3.

La siguiente imagen muestra la versión antes de la primera fase de actualización:

```
Poseidon.Software> List Version
Appliance Version:      2.7.2
Netbackup Version:      7.7.2
```

La versión del Appliance 5230 finalizada la primera fase es la siguiente:

```
Poseidon.Software> List Version
Appliance Version:      2.8.1
Netbackup Version:      7.7.3
```

Inconvenientes Particiones Appliance 5230:

Posterior a la finalización de la primera fase se encuentra un problema sobre el montaje de los discos del Appliance 5230, al parecer sobre la partición de disco deduplicado se montó un disco avanzado, al actualizar esto generó una incongruencia sobre las particiones generando que la data montada en el disco avanzado con problemas no se pueda verificar, restaurar o migrar.

4 Storage Units (0 selected)

Name	Media S...	Storage Un...	Disk Type
poseidon-hcart3-robot-tld-1	poseidon	Media Man...	
poseidon-hcart3-robot-tld-0	poseidon	Media Man...	
Poseidon-Dedupdisk	poseidon	Disk	AdvancedDisk
stu_disk_poseidon	poseidon	Disk	PureDisk

```
- [Info] Performing sanity check on disks and partitions... (5 mins approx)
-------------------------------------------------------------------------------
Disk ID                          | Type             | Total       | Unallocated | Status
-------------------------------------------------------------------------------
5E000000000000000000000000       | Operating System |   930.39 GB |           - | n/a
7AACA110001B2CEA3121B81393        | Base             |   13.642 TB |   10.802 GB | In Use

7AACA110001B2CEA3121B81393 (Base)
---------------------------------
Catalog       :    274 GB
Configuration:     25 GB
MSDP          : 13.339 TB
```

Como se pudo visualizar en las imágenes se encuentra creado un disco avanzado a pesar de que la partición no está disponible.

Para resolver esto en conjunto con Veritas se monta de nuevo el disco avanzado con problemas, se reduce el tamaño del mismo y con este espacio libre se crea un disco avanzado nuevo, este se encuentra creado sobre la partición correcta.

```
AdvancedDisk
-------------------------------------------------------------------------
Partition | Total       | Available   | Used        | %Used | Status
-------------------------------------------------------------------------
0         |    3.69 TB  |    1.44 TB  |    2.25 TB  |    61 | Mounted
```

```
AdvancedDisk
---------------------------------
Disk Pool (DP)   | Storage Unit (STU)
---------------------------------
dp_adv_poseidon | stu_adv_poseidon
```

Posterior a esto las imágenes que se encuentran en el disco avanzado con problemas, son migradas al disco avanzado nuevo, consiguiente a esto, las imágenes migradas, con segunda copia en cinta y que están próximas a expirar son depuradas del disco avanzado con problemas, posterior a esto se libera todo el espacio de este disco y el mismo es eliminado de la solución de respaldo.

Solucionando este problema, las particiones son montadas de manera correcta, y el espacio que se liberó del disco avanzado con problemas fue utilizado para crear el PureDisk (disco deduplicado), este disco será el dispositivo del almacenamiento principal de la solución de respaldo.
Las particiones quedan configuradas de la siguiente manera:

Partition	Total	Available	Used	%Used	Status
AdvancedDisk	3.69 TB	1.44 TB	2.25 TB	61	Optimal
Configuration	25 GB	17.82 GB	7.18 GB	29	Optimal
MSDP	9.29 TB	8.74 TB	567.31 GB	6	Optimal
MSDP Catalog	100 GB	99.13 GB	892.13 MB	1	Optimal
NetBackup Catalog	274 GB	159.51 GB	114.49 GB	42	Optimal
Share	0 GB	0 GB	0 GB	0	Not Configured
Unallocated	280.8 GB	-	-	-	-

Como se evidenció en la imagen, las particiones se encuentran configuradas de manera correcta, el disco avanzado nuevo sigue configurado y no se liberará el espacio del mismo hasta que toda la información almacenada en este expire, esto a pesar de que toda la información fue duplicada al PureDisk, es decir esta información tiene doble copia en disco.

Por buenas prácticas se crece el espacio de la base de datos de deduplicación "MSDP CATALOG" y se deja un espacio libre, esto para actividades de actualización y crecimientos de emergencia.

Reorganización particiones:

Luego de un aproximado de tres semanas toda la información que se encontraba dentro del disco avanzado fue expirada de manera automática, posterior a esto el disco avanzado fue eliminado y su espacio fue asignado al PureDisk; las particiones quedan conformadas de la siguiente manera:



En la siguiente imagen se puede evidenciar la configuración final del PureDisk:

Name	Storage Server ...	Server Type	Raw Size	Used Capacity	Available Space	Usable Size	% Full
dp_disk_poseidon	poseidon	PureDisk	11.93 TB	2.97 TB	8.95 TB	11.93 TB	24,93

Segunda fase de Actualización:

Posterior a la solución del inconveniente con los discos y con el Appliance en versión 2.6.1.2, se puede continuar con el proceso de actualización a la versión Final 2.7.2.
La versión del Appliance finalizada la segunda fase de actualización es la siguiente:

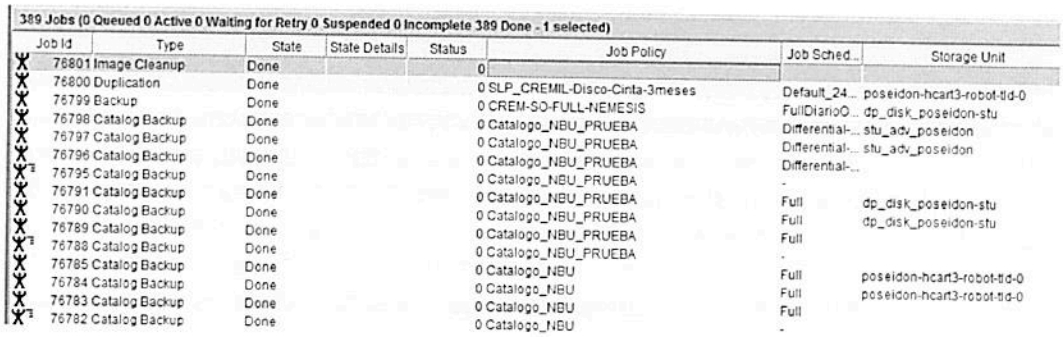
```
Poseidon.Software> List Version
Appliance Version:      2.8.1
Netbackup Version:      7.7.3
Build Date:     5998320160120044000
Poseidon.Software> UpgradeStatus

The appliance versión is 2.8.1 and not in upgrade state.
Poseidon.Software>
```

Esta versión de Netbackup incluye una migración de sistema operativo de Linux SUSE a Linux Red-Hat, en la siguiente imagen se puede verificar el nuevo sistema operativo del Appliance:

```
Poseidon:/home/maintenance # cat /etc/redhat-release
Red Hat Enterprise Linux Server reléase 6.6 (Santiago)
```

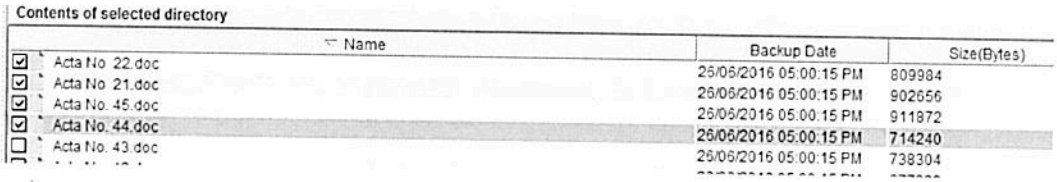
Se realizan diferentes pruebas sobre la solución de respaldo para determinar su funcionamiento correcto en la nueva versión. Se realizan pruebas de respaldo en cinta, respaldo en disco y duplicaciones de disco a cinta, como se evidencia en la siguiente imagen, las mismas finalizan sin ningún problema:



389 Jobs (0 Queued 0 Active 0 Waiting for Retry 0 Suspended 0 Incomplete 389 Done - 1 selected)

Job Id	Type	State	State Details	Status	Job Policy	Job Sched...	Storage Unit
76801	Image Cleanup	Done		0			
76800	Duplication	Done		0	SLP_CREMIL-Disco-Cinta-3meses	Default_24...	poseidon-hcart3-robot-tld-0
76799	Backup	Done		0	CREM-SO-FULL-NEMESIS	FullDiarioO...	dp_disk_poseidon-stu
76798	Catalog Backup	Done		0	Catalogo_NBU_PRUEBA	Differential-...	stu_adv_poseidon
76797	Catalog Backup	Done		0	Catalogo_NBU_PRUEBA	Differential-...	stu_adv_poseidon
76796	Catalog Backup	Done		0	Catalogo_NBU_PRUEBA	Differential-...	
76795	Catalog Backup	Done		0	Catalogo_NBU_PRUEBA	-	
76791	Catalog Backup	Done		0	Catalogo_NBU_PRUEBA	Full	dp_disk_poseidon-stu
76790	Catalog Backup	Done		0	Catalogo_NBU_PRUEBA	Full	dp_disk_poseidon-stu
76789	Catalog Backup	Done		0	Catalogo_NBU_PRUEBA	Full	
76788	Catalog Backup	Done		0	Catalogo_NBU_PRUEBA	-	
76785	Catalog Backup	Done		0	Catalogo_NBU	Full	poseidon-hcart3-robot-tld-0
76784	Catalog Backup	Done		0	Catalogo_NBU	Full	poseidon-hcart3-robot-tld-0
76783	Catalog Backup	Done		0	Catalogo_NBU	Full	
76782	Catalog Backup	Done		0	Catalogo_NBU	-	

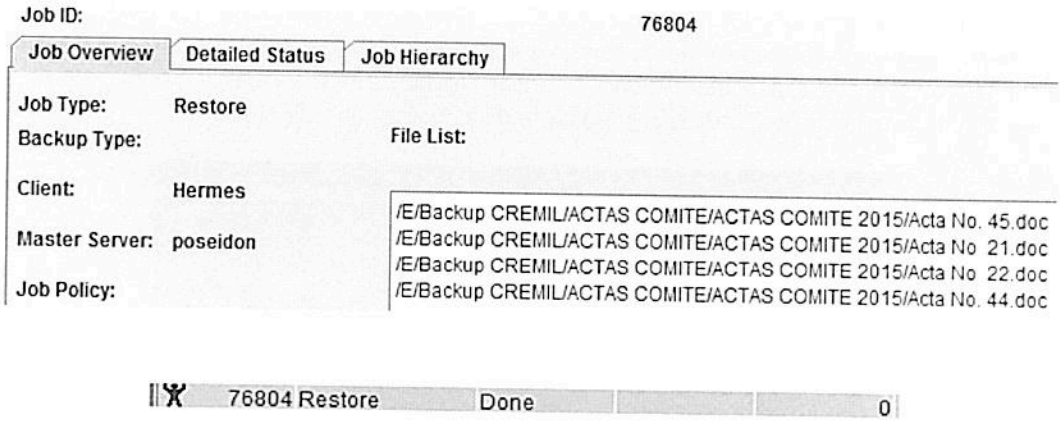
Se realizan pruebas de restauración de archivos.



Contents of selected directory

Name	Backup Date	Size(Bytes)
Acta No. 22.doc	26/06/2016 05:00:15 PM	809984
Acta No. 21.doc	26/06/2016 05:00:15 PM	902656
Acta No. 45.doc	26/06/2016 05:00:15 PM	911872
Acta No. 44.doc	26/06/2016 05:00:15 PM	714240
Acta No. 43.doc	26/06/2016 05:00:15 PM	738304

La restauración finaliza sin problemas:



Job ID: 76804

Job Overview | Detailed Status | Job Hierarchy

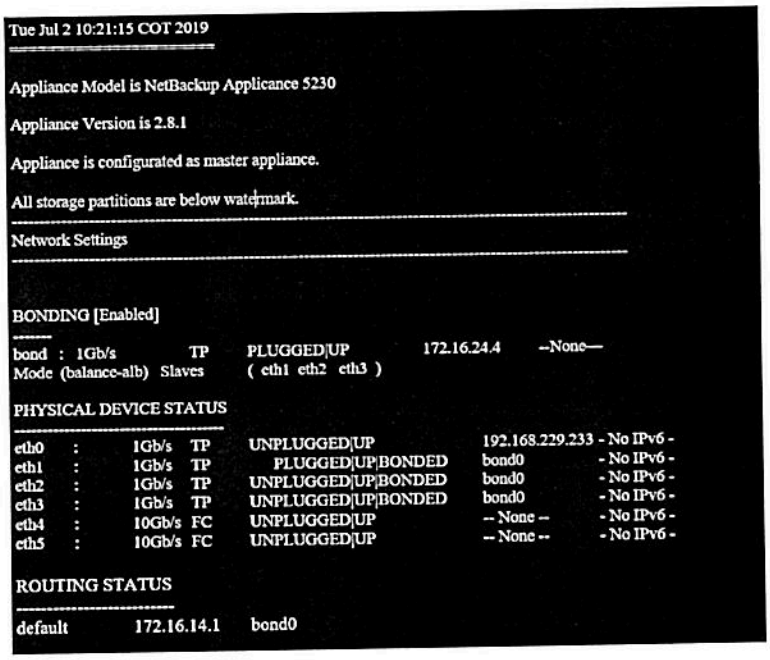
Job Type: Restore
Backup Type:
Client: Hermes
Master Server: poseidon
Job Policy:

File List:

/E/Backup CREMIL/ACTAS COMITE/ACTAS COMITE 2015/Acta No. 45.doc
/E/Backup CREMIL/ACTAS COMITE/ACTAS COMITE 2015/Acta No 21.doc
/E/Backup CREMIL/ACTAS COMITE/ACTAS COMITE 2015/Acta No 22.doc
/E/Backup CREMIL/ACTAS COMITE/ACTAS COMITE 2015/Acta No. 44.doc

76804	Restore	Done		0

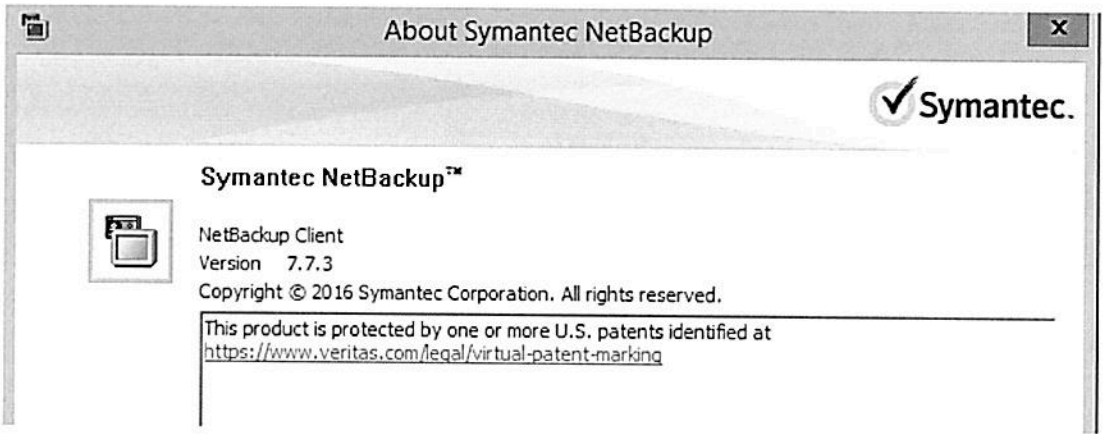
Se verifica que el funcionamiento del Appliance a nivel de versión, rol, redes y modelo se vea correcto a nivel de sistema operativo:



Adicional se ejecuta un Test de Software sobre el Appliance 5230, esto para confirmar que la configuración a nivel de Netbackup se encuentre funcionando sin problemas y que todas sus funciones se encuentren en un correcto estado, además de esto se prueba el ingreso por Web. Todas estas validaciones finalizan de manera exitosa.

Actualización OpsCenter:

Actualización del servidor OpsCenter; este servidor es el encargado de monitorear y reportar la información de la plataforma, también controla el envío de alarmas y errores que se pueden presentar en la solución de respaldo. Se realiza upgrade de versión 7.7.2 a versión 7.7.3.



Se hace verificación de conectividad del servidor Master Server **poseidon** en el OpsCenter, el mismo se encuentra reportando sin problemas:



Actualización Clientes:

Actualización de clientes activos de la plataforma de respaldo a versión 7.7.3, se actualiza un cliente Solaris y nueve clientes Windows:

Host	Operating System	OS Type	Host Type
poseidon	Linux(2.6.32-504.30.3.el6.x86_64)	UNIX	Master Server
poseidonmedia	SunOS(5.10)	UNIX	Client
cremil01	SunOS(5.10)	UNIX	Client
apolo	Windows2008(6)	Windows	Client
dionisos	Windows2008(6)	Windows	Client
Afrodita	Windows2008(6)	Windows	Client
Hades	Windows2008(6)	Windows	Client
cremilcontent	Windows2008(6)	Windows	Client
Hera	Windows2012(6)	Windows	Client
hefestos	Windows2012(6)	Windows	Client
Hermes	Windows2012(6)	Windows	Client
atenea	Windows2012(6)	Windows	Client

Validación del catálogo de Netbackup:

Se realiza validación de la base de datos de Netbackup, se ejecutan dos validaciones sobre la base de datos, una previa a la actualización a versión 2.7.3 y una posterior a la finalización de la actualización:

```
VALIDATE TABLE "dbo"."sa_diagnostic_optblock"
VALIDATE TABLE "dbo"."sa_diagnostic_optjoinstrategy"
VALIDATE TABLE "dbo"."sa_diagnostic_optorder"
VALIDATE TABLE "dbo"."sa_diagnostic_optquantifier"
VALIDATE TABLE "dbo"."sa_diagnostic_optrewrite"
VALIDATE TABLE "dbo"."sa_diagnostic_query"
VALIDATE TABLE "dbo"."sa_diagnostic_request"
VALIDATE TABLE "dbo"."sa_diagnostic_statement"
VALIDATE TABLE "dbo"."sa_diagnostic_statistics"
VALIDATE TABLE "dbo"."sa_diagnostic_tracing_level"
VALIDATE TABLE "dbo"."spt_collation_map"
VALIDATE TABLE "dbo"."spt_jdatatype_info"
VALIDATE TABLE "dbo"."spt_jdbc_conversion"
VALIDATE TABLE "dbo"."spt_jtext"
VALIDATE TABLE "dbo"."spt_mda"
VALIDATE TABLE "rs_systabgroup"."rs_lastcommit"
VALIDATE TABLE "rs_systabgroup"."rs_threads"
No errors reported
```

```
VALIDATE TABLE "dbo"."sa_diagnostic_request"
VALIDATE TABLE "dbo"."sa_diagnostic_statement"
VALIDATE TABLE "dbo"."sa_diagnostic_statistics"
VALIDATE TABLE "dbo"."sa_diagnostic_tracing_level"
VALIDATE TABLE "dbo"."spt_collation_map"
VALIDATE TABLE "dbo"."spt_jdatatype_info"
VALIDATE TABLE "dbo"."spt_jdbc_conversion"
VALIDATE TABLE "dbo"."spt_jtext"
VALIDATE TABLE "dbo"."spt_mda"
VALIDATE TABLE "rs_systabgroup"."rs_lastcommit"
VALIDATE TABLE "rs_systabgroup"."rs_threads"
No errors reported
Database [NBDB] validation successful.
```

Pruebas de restauración Base De Datos:

Adicional se realizaron pruebas de restauración de bases de datos, se realiza una prueba desde un respaldo a disco y desde un respaldo a cinta.

Se generan scripts de restauración:

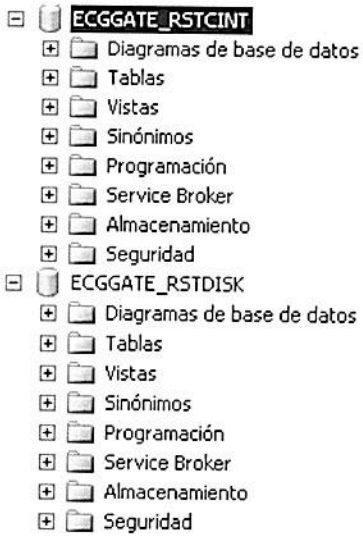
```
#  This is a template for the database MOVE command.
#
OPERATION RESTORE
OBJECTTYPE DATABASE
RESTORETYPE MOVE
#
#  Replace the database name in the following line with the name of the database that you
#  want to move to. Also remove the hash mark <#> which precedes the keyword <DATABASE>.
#
DATABASE "ECGGATE_RSTDISK"
#
#  Replace the file path <H:\BaseDatos\BiofinancialsNew\ECGGATE.mdf>
#  with a new file path. Also remove the hash mark <#> which precedes the keyword <TO>.
#  The target of the MOVE keyword must be "ECGGATE".
MOVE  "ECGGATE"
TO  "H:\BaseDatos\Restore_ECG_GATE\ECGGATE_RST.mdf"
#
#
#  Replace the file path <H:\BaseDatos\BiofinancialsNew\ECGGATE_log.ldf>
#  with a new file path. Also remove the hash mark <#> which precedes the keyword <TO>.
#  The target of the MOVE keyword must be "ECGGATE_log".
MOVE  "ECGGATE_log"
TO  "H:\BaseDatos\Restore_ECG_GATE\ECGGATE_RST_log.ldf"
#
# The following image is type: Full
NBIMAGE "AFRODITA.MSSQL7.AFRODITA.db.ECGGATE.~.7.001of001.20160706102332..C"
SQLHOST "AFRODITA"
NBSERVER "POSEIDON"
BROWSECLIENT "AFRODITA"
MAXTRANSFERSIZE 6
BLOCKSIZE 7
RECOVEREDSTATE RECOVERED
NUMBUFS 2
ENDOPER TRUE
```

```
#  This is a template for the database MOVE command.
#
OPERATION RESTORE
OBJECTTYPE DATABASE
RESTORETYPE MOVE
#
#  Replace the database name in the following line with the name of the database that you
#  want to move to. Also remove the hash mark <#> which precedes the keyword <DATABASE>.
#
DATABASE "ECGGATE_RSTCINT"
#
#  Replace the file path <H:\BaseDatos\BiofinancialsNew\ECGGATE.mdf>
#  with a new file path. Also remove the hash mark <#> which precedes the keyword <TO>.
#  The target of the MOVE keyword must be "ECGGATE".
MOVE   "ECGGATE"
TO   "H:\BaseDatos\Restore_ECG_GATE\ECGGATE_RST_CINTA.mdf"
#
#
#  Replace the file path <H:\BaseDatos\BiofinancialsNew\ECGGATE_log.ldf>
#  with a new file path. Also remove the hash mark <#> which precedes the keyword <TO>.
#  The target of the MOVE keyword must be "ECGGATE_log".
MOVE   "ECGGATE_log"
TO   "H:\BaseDatos\Restore_ECG_GATE\ECGGATE_RST_CINTA_log.ldf"
#
# The following image is type: Full
NBIMAGE "AFRODITA.MSSQL7.AFRODITA.db.ECGGATE.~.7.001of001.20160706103347..C"
SQLHOST "AFRODITA"
NBSERVER "POSEIDON"
BROWSECLIENT "AFRODITA"
MAXTRANSFERSIZE 6
BLOCKSIZE 7
RESTOREOPTION REPLACE
RECOVEREDSTATE RECOVERED
NUMBUFS 2
ENDOPER TRUE
```

Se ejecutan los scripts de restauración y el resultado es exitoso, en el detalle de los Jobs se puede evidenciar el resultado tanto de disco como de cinta:

Job Id	Type	State	Client	Media Server	Start Time	Status
77759	Restore	Done	afrodita	poseidon	6/07/2016 11:24:20 AM	0
77758	Restore	Done	afrodita		6/07/2016 11:23:37 AM	0
77757	Restore	Done	afrodita	poseidon	6/07/2016 11:11:16 AM	0
77756	Restore	Done	afrodita		6/07/2016 11:10:32 AM	0

Se valida a nivel de base de datos la integridad de las bases de datos restauradas y en la siguiente imagen se puede evidenciar que ambas bases de datos fueron recuperadas exitosamente:



Consultoría de políticas:

En conjunto con el administrador de respaldo se realizó una consultoría general sobre todas las políticas de respaldo configuradas actualmente, se hacen revisiones de programación, configuración de unidades, retenciones, entre otras; De acuerdo a los hallazgos encontrados se aplican las recomendaciones sobre las políticas de la solución.

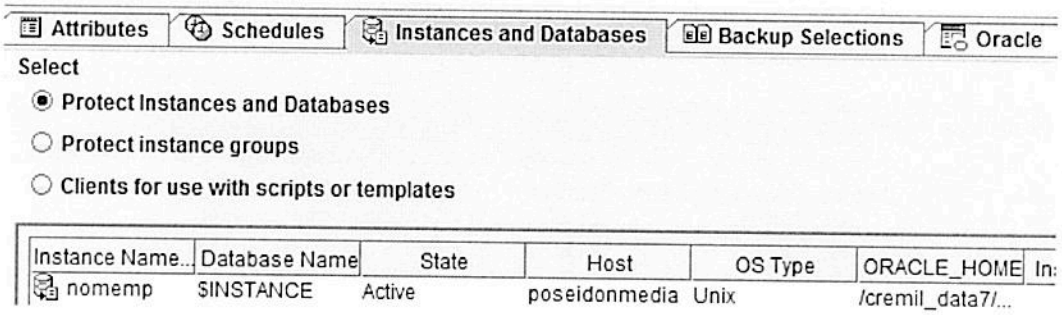
35 Policies (1 selected)

Name	Type	Storage	Active
SYMC_NBA_Dedupe_Catalog_poseidon	Standard	dp_disk_poseidon-stu	Yes
CREM-SO-FULL-WEBCREMIL	MS-Windows	CREMIL-Disco-Cinta-3meses	Yes
CREM-SO-FULL-NEMESIS	Standard	CREMIL-Disco-Cinta-3meses	Yes
CREM-SO-FULL-HERMES	MS-Windows	CREMIL-Disco-Cinta-3meses	Yes
CREM-SO-FULL-HERA	MS-Windows	CREMIL-Disco-Cinta-3meses	Yes
CREM-SO-FULL-HEFESTOS	MS-Windows	CREMIL-Disco-Cinta-3meses	Yes
CREM-SO-FULL-HADES	MS-Windows	CREMIL-Disco-Cinta-3meses	Yes
CREM-SO-FULL-DIONISOS	MS-Windows	CREMIL-Disco-Cinta-3meses	Yes
CREM-SO-FULL-CREMILWEB	MS-Windows	CREMIL-Disco-Cinta-3meses	Yes
CREM-SO-FULL-CREMILCONTENT	MS-Windows	CREMIL-Disco-Cinta-3meses	Yes
CREM-SO-FULL-CREMIL01	Standard	CREMIL-Disco-Cinta-3meses	Yes
CREM-SO-FULL-ATENEA	MS-Windows	CREMIL-Disco-Cinta-3meses	Yes
CREM-SO-FULL-ARTEMISA	MS-Windows	CREMIL-Disco-Cinta-3meses	Yes
CREM-SO-FULL-APOLO	MS-Windows	CREMIL-Disco-Cinta-3meses	Yes
CREM-SO-FULL-AFRODITA	MS-Windows	CREMIL-Disco-Cinta-3meses	Yes
CREM-LOGS-FULL-HERMES	MS-Windows	dp_disk_poseidon-stu	Yes
CREM-LOGS-FULL-HADES	MS-Windows	dp_disk_poseidon-stu	Yes
CREM-LOGS-FULL-APOLO	MS-Windows	dp_disk_poseidon-stu	Yes
CREM-LOGS-FULL-AFRODITA	MS-Windows	dp_disk_poseidon-stu	Yes
CREM-DB-SQL-INC-AFRODITA	MS-SQL-Se...	dp_disk_poseidon-stu	Yes
CREM-DB-SQL-FULL-AFRODITA_CINTA	MS-SQL-Se...	poseidon-hcart3-robot-tld-1	Yes
CREM-DB-SQL-FULL-AFRODITA	MS-SQL-Se...	dp_disk_poseidon-stu	Yes
CREM-DB-SQL-EXP-AFRODITA-CINTA	MS-Windows	poseidon-hcart3-robot-tld-0	Yes
CREM-DB-ORACLE-FULL-NOMEMP	Oracle	dp_disk_poseidon-stu	Yes
CREM-DB-ORACLE-FULL-NEMESIS	Oracle	dp_disk_poseidon-stu	Yes
CREM-DB-ORACLE-EXP-NEMESIS	Standard	CREMIL-Disco-Cinta-1ano	Yes
CREM-DB-ORACLE-ARCHIVES-NOMEMP	Oracle	dp_disk_poseidon-stu	Yes
CREM-DB-ORACLE-ARCHIVES-NEMESIS	Oracle	dp_disk_poseidon-stu	Yes
CREM-APP-IMAGENES-FULL-APOLO	MS-Windows	CREMIL-Disco-Cinta-5anos	Yes
CREM-APP-FULL-HEFESTOS	MS-Windows	CREMIL-Disco-Cinta-5anos	Yes
CREM-APP-FULL-ARTEMISA	MS-Windows	CREMIL-Disco-Cinta-5anos	Yes
CREM-APP-FULL-AFRODITA	MS-Windows	CREMIL-Disco-Cinta-5anos	Yes
CREM-APP-DOMINIO-P-FULL-HERMES	MS-Windows	CREMIL-Disco-Cinta-5anos	Yes
CREM-APP-DOMINIO-P-FULL-HADES	MS-Windows	CREMIL-Disco-Cinta-5anos	Yes
Catalogo_NBU	NBU-Catalog	poseidon-hcart3-robot-tld-0	Yes

Integración base de datos Oracle:

Se realiza la integración de una base de datos Oracle llamada Nomemp, aprovechando las ventajas de la nueva versión de NBU, se configura por medio de política inteligente, para esto se proveen las credenciales de Sistema Operativo de Oracle y credenciales de base de datos, posterior a esto se proceder la política por medio de política inteligente.

Se configura la instancia activa Nomemp del servidor poseidon media:



Instance Name...	Database Name	State	Host	OS Type	ORACLE_HOME	In:
nomemp	$INSTANCE	Active	poseidonmedia	Unix	/cremil_data7/...	

Se realiza configuración de políticas para respaldos de la base de datos y de los Archives Redologs:

Name	Type	Storage	Active
CREM-DB-ORACLE-FULL-NOMEMP	Oracle	dp_disk_poseidon-stu	Yes
CREM-DB-ORACLE-ARCHIVES-NOMEMP	Oracle	dp_disk_poseidon-stu	Yes

Se ejecutan pruebas de respaldo sobre la base de datos las cuales finalizan de manera exitosa:

91164 Backup	Done	0	CREM-DB-ORACLE-FULL-NOMEMP	Full_Diario
91163 Backup	Done	0	CREM-DB-ORACLE-FULL-NOMEMP	Full_Diario
91162 Backup	Done	0	CREM-DB-ORACLE-FULL-NOMEMP	Full_Diario
91161 Backup	Done	0	CREM-DB-ORACLE-FULL-NOMEMP	Full_Diario
91160 Backup	Done	0	CREM-DB-ORACLE-FULL-NOMEMP	Full_Diario
91159 Backup	Done	0	CREM-DB-ORACLE-FULL-NOMEMP	Full_Diario
91158 Backup	Done	0	CREM-DB-ORACLE-FULL-NOMEMP	Full_Diario
91157 Backup	Done	0	CREM-DB-ORACLE-FULL-NOMEMP	Full_Diario
91156 Backup	Done	0	CREM-DB-ORACLE-FULL-NOMEMP	Full_Diario
91155 Backup	Done	0	CREM-DB-ORACLE-FULL-NOMEMP	Full_Diario
91154 Backup	Done	0	CREM-DB-ORACLE-FULL-NOMEMP	-
91171 Backup	Done	0	CREM-DB-ORACLE-ARCHIVES-NOMEMP	Full_Diario_Manana
91170 Backup	Done	0	CREM-DB-ORACLE-ARCHIVES-NOMEMP	Full_Diario_Manana
91169 Backup	Done	0	CREM-DB-ORACLE-ARCHIVES-NOMEMP	Full_Diario_Manana
91168 Backup	Done	0	CREM-DB-ORACLE-ARCHIVES-NOMEMP	Full_Diario_Manana
91167 Backup	Done	0	CREM-DB-ORACLE-ARCHIVES-NOMEMP	Full_Diario_Manana
91166 Backup	Done	0	CREM-DB-ORACLE-ARCHIVES-NOMEMP	-

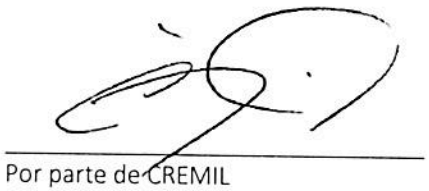
En la siguiente imagen se puede evidenciar las instrucciones configuradas para le ejecución del respaldo de la base de datos Oracle:

```
- ************************************************************
- Backup Information:
-               Client: poseidonmedia
-               ORACLE_SID: nomemp
-               ORACLE_HOME: /cremil_data7/app/ora11/product/11.2.0/dbhome_1
-               Online (Hot) Stream backup requested
-               Objects being backed up:
-                               Whole Database
-                               Archive Logs
-                               Control File
-               Number of channels to allocate (database): 1
-               Number of channels to allocate (archive logs): 2
-               Oracle Authentication is being used
-               RMAN Default Limits will be used (Database)
-               RMAN Default Limits will be used (Archive Logs)
-               Backup Set Identifier: CREM-DB-ORACLE-FULL-NOMEMP
-               Backup File Name Formats:
-                               Database: bk_d%d_u%u_s%s_p%p_t%t
-                               Archive Log: arch_d%d_u%u_s%s_p%p_t%t
-                               Control File: ctrl_d%d_u%u_s%s_p%p_t%t
- End of Backup Information
- ************************************************************
```

5. APROBACIONES

La información contenida en este informe está de acuerdo con los requerimientos solicitados por La Caja De Retiro De Las Fuerzas Militares.

Las partes involucradas en el servicio están de acuerdo con la información suministrada en este documento y asumen la responsabilidad de ejecutar los cambios a que hubiere lugar.
Se firma para aprobación, el día 02/07/2019



Por parte de CREMIL



Por parte de SAS.