

## **KEY BENEFITS OF ERA**

- Increases business agility and innovation rate: Replace timeconsuming and complex database operations with automated services, allowing resources to focus on business initiatives.
- One-click database operations: Consumer-grade database management for all different database engines.
- API-first architecture with full operational visibility: Easily integrate with your preferred self-service tools.

# Nutanix Era: Elegant and Efficient One-Click Database Operations

# THE CHALLENGE OF LEGACY DATABASE ENVIRONMENTS

Many organizations are moving to a database as a service (DBaaS) model for managing and operating their databases, because DBaaS or cloud data-base models are efficient, agile, cost effective, and scalable. What if copying a database were as easy as the copy and paste operations on your computer? Who wouldn't want to introduce a level of standardization to their database estate, when traditional methods for database provisioning, patching, and life cycle management are complex and inefficient?

To provision each database, database administrators (DBAs) must decide whether to configure compute as a single VM or as multiple VMs in a cluster. Storage provisioning often requires setting up multiple disk groups to handle the different kinds of database data, including data files, software, online logs, log files, and local backups. Once you establish the compute and storage and have an environment ready, you can start setting up the database server by installing the database software. If you're working with a clustered system, this setup process also requires you to install, configure, and test additional components. You also have to define backup policies to protect the new database, and these policies require integration with different backup software and hardware technologies.

Once a database is up and running, the cloning and data refresh processes associated with it can be complex as well. To create clones, you must first identify the right backup set, along with any necessary log files. A fter locating the backups (tapes or secondary sources), cloning is a complex recovery process that includes setting up the database server, connecting to the database, restoring database backups, and finally replaying the database logs to a specific time. Then you must regularly refresh all these database copies and clones with the source data for them to continue to be useful. Now imagine scaling this effort to hundreds of databases supporting different groups (test/dev, BI, QA, and so on) within your organization.

The 2016 IDC report on copy data management (CDM) showed that 77% of the organizations surveyed have more than 200 database instances, while 82% have at least 10 copies of each instance. Based on these figures, we can estimate that the typical DBA must provision, manage, refresh, and perform other database operations for over 2,000 database instances. Managing all these instances is complex and time-consuming, a situation that is further exacerbated when the databases run on a wide variety of legacy software and hardware technologies.



#### **NUTANIX ERA**

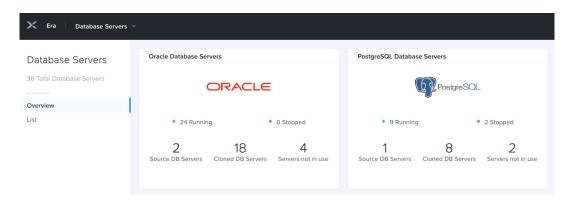
Nutanix Era makes Nutanix Enterprise Cloud the ideal platform for running databases. Nutanix Era is a software suite that automates and simplifies database administration, bringing one-click simplicity and invisible operations to database provisioning and life cycle management (LCM). With one-click database provisioning and CDM as its first services, Nutanix Era enables DBAs to provision, clone, and refresh their databases to any point in time. The API-first Nutanix Era architecture can easily integrate with your preferred self-service tools, and every operation has a unique ID and is fully visible for auditing.

Databases				Clone Data	Age (Days)				About			
	4 26 Sources Clones						clones days	Era	Cluster Version		Tomahawk-Pro	
Data Usage (GiB)				Tasks (Last	5 days)				Alerts (Last 5 d	lays)		
	7.5: Space Sa				O Failed	294 Succeeded				1 Critical	3 Warning	
_			_	Time Machi	nes		• 0	* 270		e catchup failed for CRM	4_DB.	20 hours a
				Source Data	obases		• 0	· 24		HCM_DB_STBY failed.		2 days 11 hours as
Used			8458.4 GIB	Database C	lones		• 0	+ 0		tabase is not up.		3 days 14 hours as
<ul> <li>Savings over tradition</li> </ul>	al cloning		63654.7 GiB	Database S	ervers		• 0	* 0	<ul> <li>Clone creati</li> </ul>	on failed for NTNX_PULS	SEHD_DB.	4 days 5 hours a
	Source Database			Time	Machine					Clones		
Name ©	Туре Ф	Size (GiB) \$	Name \$		Size (GiB) \$	Clones \$	Size Used /	Savings Over	Traditional Cloring (	3iB) ¢		Savin
CRM_DB	Oracle	2351.2	CRM_DB	TM	2867.2	10	376.8 / 235	512.1				
NTNX_PULSEHD_DB	PostgreSQL	1536.5	NTNX_PU M	LSEHD_DB_T	5734.4	- 8	338.9 / 122	92				6
HCM_DB_STBY	Oracle	3481.3	HCM_DB	STBY_TM	38912	8	373.7 / 278	50.6				- 7
FIN. DB	SQLServer	1745.9	FIN_DB_T		2231.8	0	N/A					

## NUTANIX ERA ONE-CLICK PROVISIONING

Nutanix Era hides the complexity of database operations and provides a set of common APIs, a CLI, and a GUI that simply work across multiple database engines. Nutanix Era allows DBAs to define standards for their database provisioning needs with end-state driven functionality that includes HA database deployments for mission-critical clusters. The Era provisioning service includes:

•Database engines: Custom software images tailor-made to enterprise needs (including support for PSUs and one-off patches).





•Database catalog: Customizable database profiles for software, compute, networking, and database parameters.

	Creat	e Database	Paramet	er Profile						×	
	1	Engine	2 Par	ameters							
Name			Sizing								
Oracle X-small Dev			Block Si	ze (KiB)			Process	es			
Description			- 1	8	+	0	-	300	+	0	
			Undo Ta	blespace (Mi	B)		Temp Ta	blespace (Mil	B)		
Memory			-	1024		+	-	256		÷	
Automatic Memory Mgmt	Total Memory (MiB)		Langua	ige and Loc	ation						
True 🗧 🕄	- 12768										
SGA (MiB)	PGA (MIB)		Amer	ican	•	0	Unite	d States	•	0	
auto	auto	0	Additional Parameters								
Connection			Custom	init.ora file							
Mode	Number of Shared Se	rvers	Uploa	d File Sele	ect you	ur file					
Dedicated Server ÷	- 1	+									
								Back	Creat	0	

•Database recovery SLAs: Sophisticated and customizable recovery SLAs for continuous, daily, and monthly RPOs.

		Regis	ter a Source	Database		×	C Description C
Engine Recovery Model     Full/Bulk-logged     Simple Name	2	atabase !	Ma O	Another a	kups with		Continuous: 30 days Daily: 90 days Weekly: 16 weeks Monthly: 12 months Quarterly: 75 quarters
test_TM				GOLD		: 0	Quarterly: 75 quarters
Schedule							
Initial Daily Snapshot at		Snapsho	ts Per Day		Log Catch Up Every		
01:00:00	٢		1	+	30 min	•	
Weekly Snapshot on		Monthly	Snapshot on ti	ne	Quarterly Snapshot in		
Friday	•	16th		÷	Jan, Apr, Jul, Oct	٠	
Autoextend the Log Drive	2				Back	Register	

## NUTANIX ERA COPY DATA MANAGEMENT

We believe that management operations for databases that are terabytes in size should be just as easy as the copy and paste operations on your personal computer. Nutanix Era copy data management services include:

•Time Machine enforcement for DB retention SLAs: Powers one-click database copy and paste operations from any point in time while maintaining QoS for specific SLAs.

X Era Time Machines *																								s (0	1				0	0		Admin 🍟	
< Back to Time Machines	Clone Log	Catch Up	s	napshot	Paus	e	Resume		Upda	ate	Authoria	te Da	itabas	e Serv	ers																		
CRM_DB_TM	August 2018 - Dee	cember 2	2018																						Тос	lay	Most F	tecen	1 0	Idest		0 0	
Oracle	А	ugust 🕻	D			5	eptembe	er 🖸				00	tober	07	0	0			No	vemb	er 🚺	0 6					. D	Decer	mber	14			
Age 10 months 15 days	Su Mo Tu		Th Fr 2 3	Sa 4	Su	Mo	Tu We	Th	Fr	Sa 1	Su	Mo 1	Tu 2	We 3	Th 4	Fr 5		5	iu M	o TL	, w			Sa 3		Su	Мо	Tu	We	Th		Sa 1	
Last Update 18 hours ago	567		9 10		2	3 10	4 5 11 12	6 13	7 14	8	7		9	10		12			4 5	6	7	8	9	10		2	3 10	4	5	6	_	8	
Next Log Catch Up <1 seconds	12 13 14 19 20 21	15 1		18 25	16	17	18 19	20	21	22	14	15	16 23	17	18 25		20	8	8 1	13		15				16	17	18	19	20	21	22	
Next Snapshot 5 hours 13 minutes	26 27 28	29 3	30 31		23 30	24	25 26	27	28	29	28	29	30	31				2	5 2	5 23	28	29	30			23 30	24 31	25	26	27	28	29	
Source Database CRM_DB					•	Conti	NUOUS	• •	Daily		Weekly	•	Mon	hly	•	Quar	rterly	• S	stem	Snaps	shot	•	Mar	nual									
Clones 10	O December	14, 2018	0																									C	D Sh	ow Lo	g Cat	:hup	
Authorized Database Servers 12																									Curren	t Time							
SLA GOLD																																	
Schedule	۲																																
																																_	
	1.00	2.00	3:00	4:00	5.00	6.00	7:00		3:00	9.0	0 10.00	11	00	12:00	13	1.00	14.00	15:04	2 1	5:00	17:0	0	18.00	19:	00 3	0:00	21.0	0 2	22:00	23	00		

- •One-click cloning and refresh: Zero-byte database clones to any point in time with the option of inserting pre- or postmasking scripts.
- •One-click backup: Consumer-grade database operations for backing up any size database in a full database consistent manner within a matter of minutes

									Alerts 🔘 1	
Back to Time Machines	Clone	Log Catch Up	Snapshot	Pause		Update	Authorize Database Server			
NTNX_PULSEHD_D										
PostgreSQL Age 7 months 6 days Last Update 19 hours ago Next Log Catch Up < 1 seconds										
Next Snapshot 5 hours 17 minutes						C	reate Snapshot >			
Source Database NTMX, PULSEHD_DB Clones 8 Authorized Database Servers 10 SLA					Snaps	hot Name	Cancel			
SLIVER Schedule										



## T. 855.NUTANIX (855.688.2649) | F. 408.916.4039 info@nutanix.com | www.nutanix.com | ¥@nutanix

Nutanix makes infrastructure invisible, elevating IT to focus on the applications and services that power their business. The Nutanix enterprise cloud platform leverages web-scale engineering and consumer-grade design to natively converge compute, virtualization and storage into a resilient, software-defined solution with rich machine intelligence. The result is predictable performance, cloud-like infrastructure consumption, robust security, and seamless application mobility for a broad range of enterprise applications. Learn more at www.nutanix.com or follow us on Twitter @nutanix.

©2018 Nutanix, Inc. All rights reserved. Nutanix is a trademark of Nutanix, Inc., registered in the United States and other countries. All other brand names mentioned herein are for identification purposes only and may be the trademarks of their respective holder(s).