

Bacula Enterprise 2022

Agenda

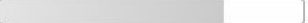
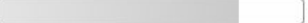
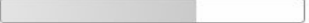
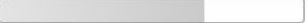
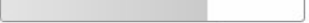
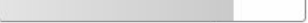
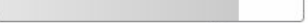
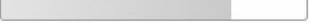
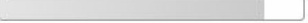
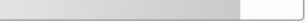


- A Empresa
- Players de Backup e Gartner
- Backups Hoje
- Bacula Community e Enterprise
- Arquitetura Bacula Enterprise
- Características
- Cases
- Modelos de Precificação e Contratação
- Serviços



- De um dos Fundadores da Autodesk e do Bacula Community, Kern Sibbald
- Fabricante com sede na Suíça, presença em todos os continentes
- Suporte e equipe certificada também no Brasil
- Missão: *Fornecer o melhor e mais acessível Sistema de Backup e Restauração de Dados*

Avaliações G2

	 Bacula Enterprise	 IBM Spectrum Protect	 Commvault Backup & ...	 Veritas NetBackup
Star Rating	★★★★☆ 51 reviews	★★★★☆ 56 reviews	★★★★☆ 71 reviews	★★★★☆ 100 reviews
Market Segments	Mid-Market (60.4% of reviews) ⓘ	Enterprise (69.2% of reviews) ⓘ	Mid-Market (51.5% of reviews) ⓘ	Enterprise (54.3% of reviews) ⓘ
Ease of Use	 8.6 Responses: 39	 6.7 Responses: 39	 7.4 Responses: 54	 7.9 Responses: 85
Ease of Setup	 7.4 Responses: 33	 6.5 Responses: 32	 6.7 Responses: 46	 7.4 Responses: 58
Ease of Admin	 8.0 Responses: 34	 6.8 Responses: 32	 7.7 Responses: 48	 7.9 Responses: 57
Quality of Support	 9.6 Responses: 38	 7.5 Responses: 38	 8.7 Responses: 53	 7.9 Responses: 78
Security Standards	 9.2 Responses: 21	Not enough data available	Not enough data available	 8.1 Responses: 7
Cloud Data Protection	 9.6 Responses: 12	Not enough data available	Not enough data available	 8.7 Responses: 5
Data Deduplication	 9.5 Responses: 21	Not enough data available	 9.5 Responses: 7	 8.1 Responses: 7

Avaliações TrustRadius e Gartner



Bacula Enterprise ✓



TR Score 9.5 out of 10

Based on 42 reviews and ratings



**Commvault Complete
Data Protection**



TR Score 8.4 out of 10

Based on 195 reviews and ratings



**IBM Spectrum Protect
Plus**



TR Score 8.1 out of 10

Based on 16 reviews and ratings



Veritas NetBackup



TR Score 7.9 out of 10

Based on 80 reviews and ratings

Gartner



Honorable Mention in 2022 Gartner® Magic Quadrant™
for Enterprise Backup and Recovery Software Solutions

Gartner
Peer **Insights**™



**Bacula Enterprise
Reviews**

by Bacula in Enterprise Backup and Recovery Software Solutions
4.8 ★★★★★

Bacula Community vs Enterprise



Community

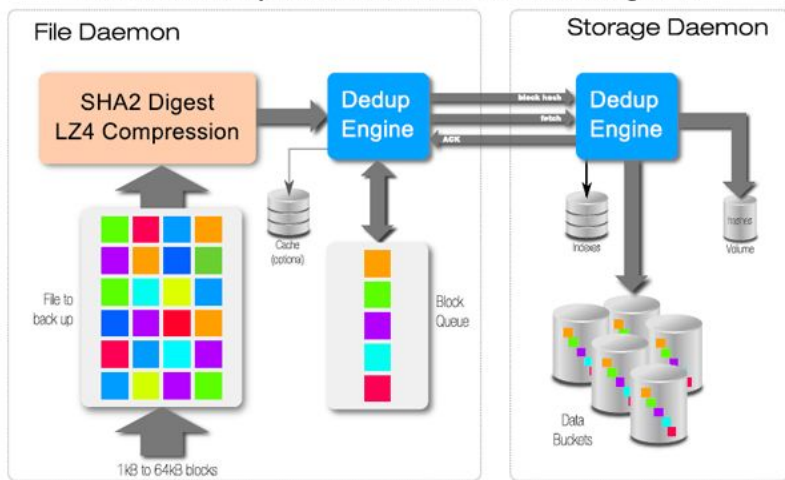
- Licença Livre (GPL).
- Código aberto.
- Pacotes da comunidade ou compilados pelo usuário.
- Necessário desenvolver plugins ou usar script.
- Catálogo e backup de formato aberto.

Enterprise

- Investimento em Licenças.
- Código proprietário.
- Pacotes aprovados.
- Suporte do desenvolvedor.
- Interface gráfica única com poucos cliques.
- Mais de 30 plugins de aplicativos específicos.
- Deduplicação global e armazenamento.
- Catálogo e formato abertos.

- Deduplicação Global (**na origem ou somente storage**). *Até 99% de redução no tráfego e armazenamento.*
- CBT para outras Virtualizações (RHV, XEN etc.)
- Primeiros Plugins para Backup de **Dados em S3, Docker, Kubernetes, Proxmox, Hadoop HDFS, PostgreSQL, MySQL** etc.
- Formato de Catálogo e de Backup Abertos (**sem aprisionamento**)
- Driver de armazenamento **com Dedup** em Object Storage para todas as nuvens

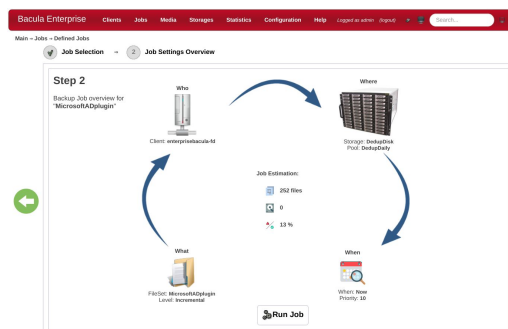
Benefit from Deduplication on both the client and storage side



Outras Vantagens



- Altíssima Escalabilidade (**poucas conseguem fazer backup de 10.000 hosts ou mais**).
- Equipe de Desenvolvimento própria, e **não é uma suíte!**
- Todas comunicações criptografadas automaticamente, com **certificado FIPS**
- Maior quantidade de clientes para plataformas: **Unix, AIX, HPUX, Power, Debian, Slackware, FreeBSD, RHV, SUSE, Android, Windows, MacOS** etc.
- Mais avançada Interface Web do Mercado, sem requerer **Java/Flash**. Deploy/update remoto de agentes, etc.



Ransomware

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- 2FA
- Volumes imutáveis
- NAS Object Lock
- Ransomware detection
- Antivírus integrado
- Conexão socket própria
- Servidor primariamente **Linux**
- Processos dedicados não-privilegiados

Striking oil United States

Ransom payments, \$'000

— Average — Median



Sources: Coveware; Colonial Pipeline Company
The Economist

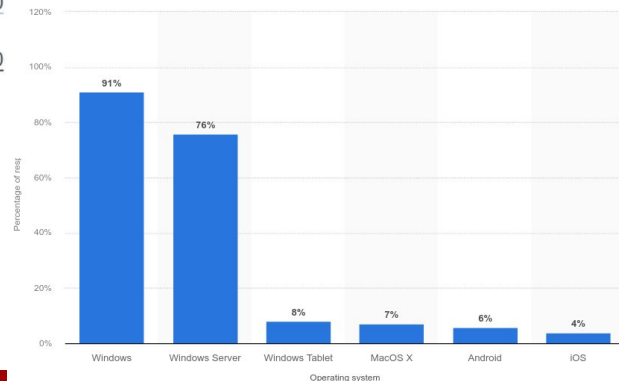
Cryptolocker 2.0

Your personal files are encrypted



Your files will be lost
without payment on:
11/24/2013 3:16:34 PM

Info
Your **important files** were encrypted on this computer: photos, videos, documents, etc. You can verify this by click on see files and try to open them.
Encryption was produced using **unique public key RSA-4096** generated for this computer. To decrypt files, you need to obtain **private key**.
The single copy of the private key, which will allow you to decrypt the files, is located on a secret server on the Internet, **the server will destroy the key within 72 hours after encryption completed**. After that, nobody and never will be able to restore files.
To retrieve the private key, you need to pay 0.5 bitcoins.
Click **proceed to payment** to obtain private key.
Any attempt to remove or damage this software will lead to immediate private key destruction by server.



Ransomware

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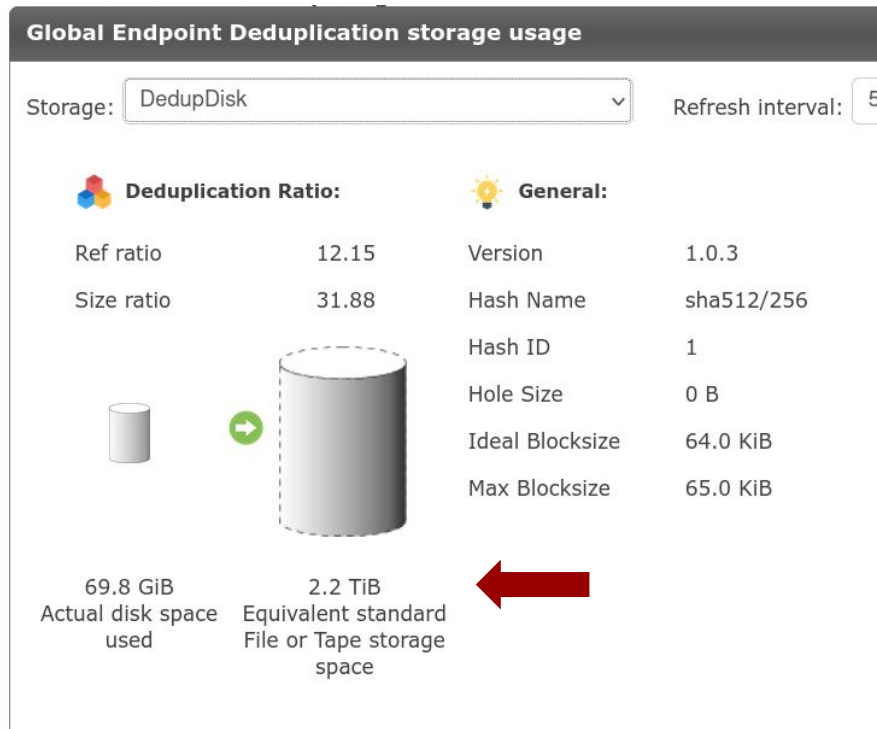
wazuh.

- Catálogo externo com cluster ou PaaS (ex. OCI)
- Suporte nativo desde a concepção de **gravação direta em todas as fitas, cartuchos, VTL, WORM etc.**
- **Suporte a SIEMs (ex.: Wazuh)**

Backups Hoje



- Backup é a redundância de qualquer dado que pode ser usada para restaurar sua forma original [Guise]
- Desafio: Dados digitais criados pelo mundo dobram a cada dois anos - **44 Zettabytes** em 2020 [IDC]
- **Deduplicação Global** e Escalabilidade são fatores chaves
- **Ransomware** reafirma a necessidade de backup



Backups Hoje



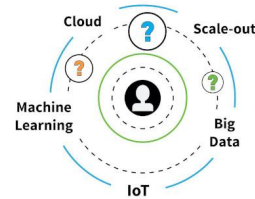
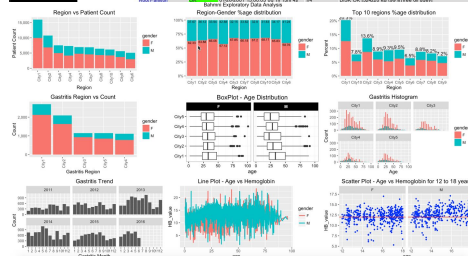
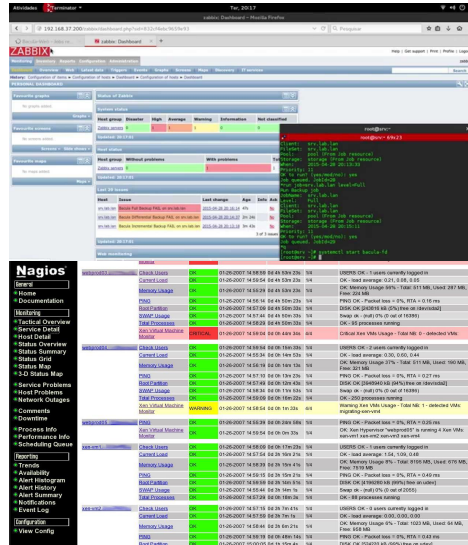
MULTI-LEVEL DISASTER RECOVERY



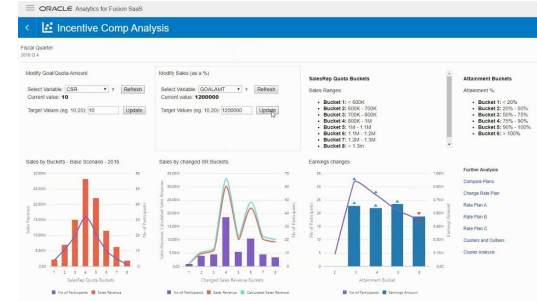
Os Três Níveis de DR

- **Nível de Dados.** Proteção dos dados de usuários e aplicações (dumps, cópia de arquivos)
- **Nível de Aplicação.** Continuidade da aplicação (PITR, CDP, plugins para vasta gama de aplicações)
- **Nível de SO.** Reduzir o tempo de recuperação do sistema para o menor possível (export de VM, CDP, snapshot de FS, Bare Metal)

O Software de Backup **não deve ser um monólito**, mas Permitir a Mineração de Dados de seus Metadados (entre outros): “sem esses recursos, um backup produto está estagnado e não é capaz de crescer dentro de um ambiente” [Guise]



Grafana



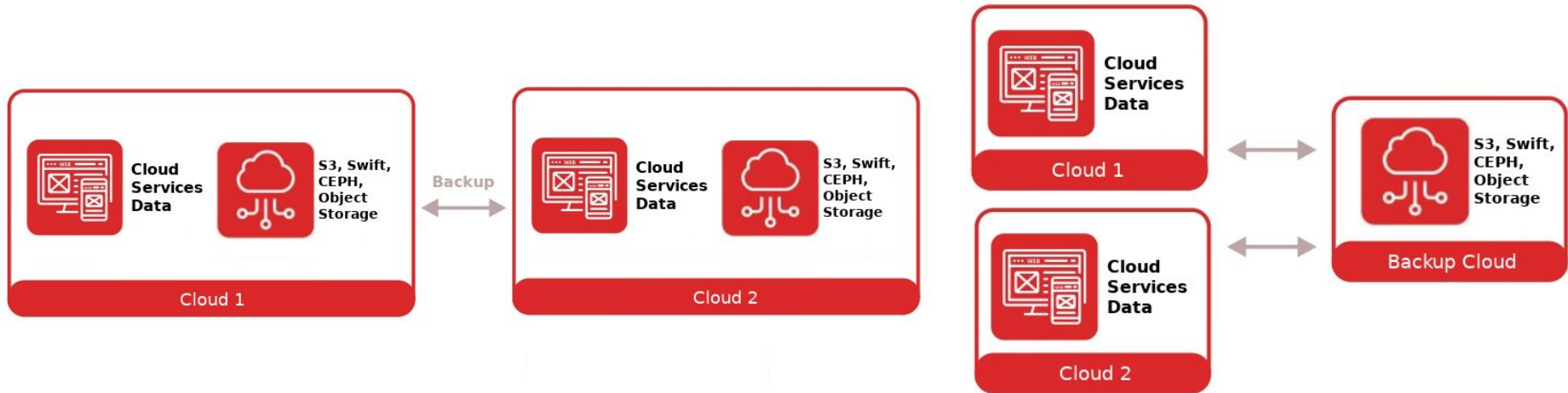
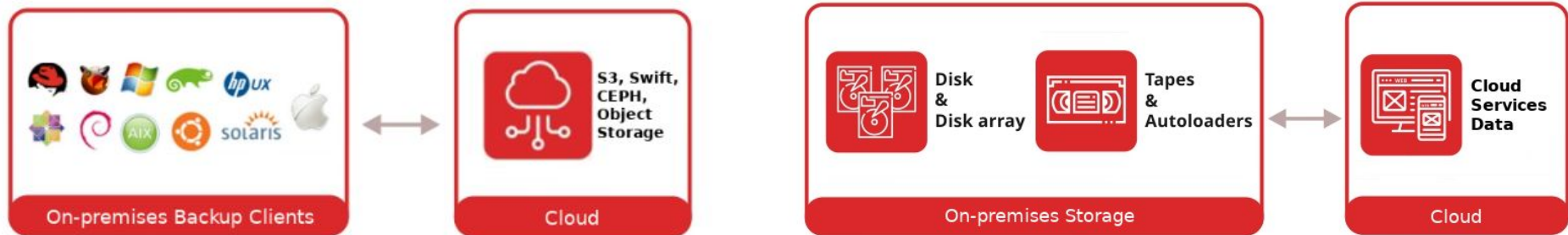
Storage em Nuvem

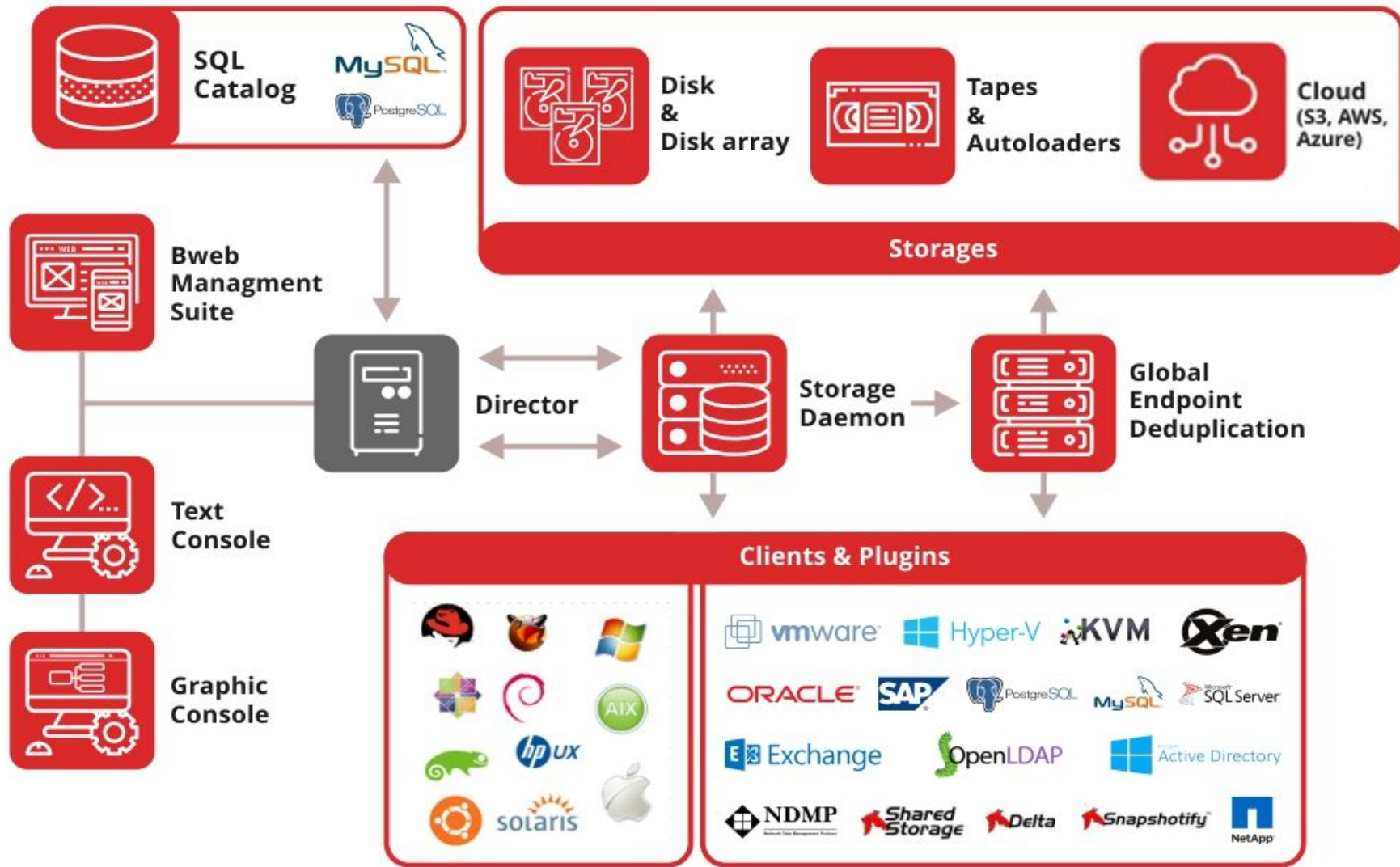
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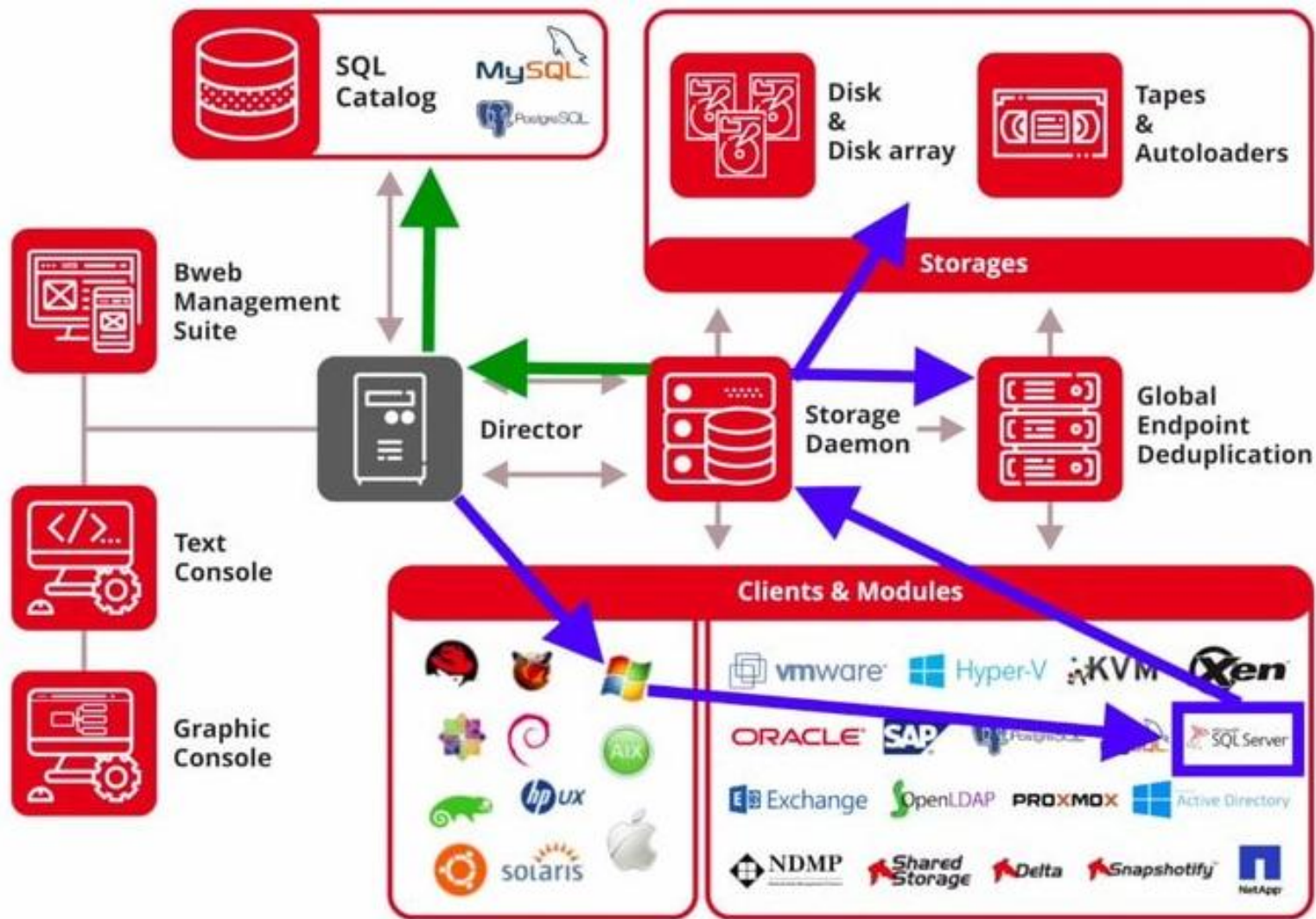


- Cold Storage
- Imutabilidade
- Dedup









Director (servidor de backup, master)



- Gestor central dos Jobs e da autenticação entre os serviços.
- Contém agendamentos, configurações, retenções, políticas, etc.
- ★ **Escalável** (mais de 10.000 clientes)
- ★ Pode ser Virtualizado
- ★ Focado em Automação
- ★ Auto Recuperação de Desastres

Storage Daemon (nó de armazenamento)

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- ★ Sem tarifação por quantidade SDs
- ★ Nuvem S3, Swift, CEPH etc.
- ★ Discos internos, externos, RDX.
- ★ Robôs-de-fitas, Cartuchos e VTL
- ★ Infinitos Storages Daemons ligados a um mesmo Director



- ★ Deduplicação no armazenamento por software ou hardware
- ★ Diferentes níveis de compactação via software
- ★ Alta Escalabilidade
- ★ **Opção Criptografia somente no Storage**
- ★ **Cluster de Storage**
- ★ **Appliance de backup integrado**

File Daemon (cliente de backup)

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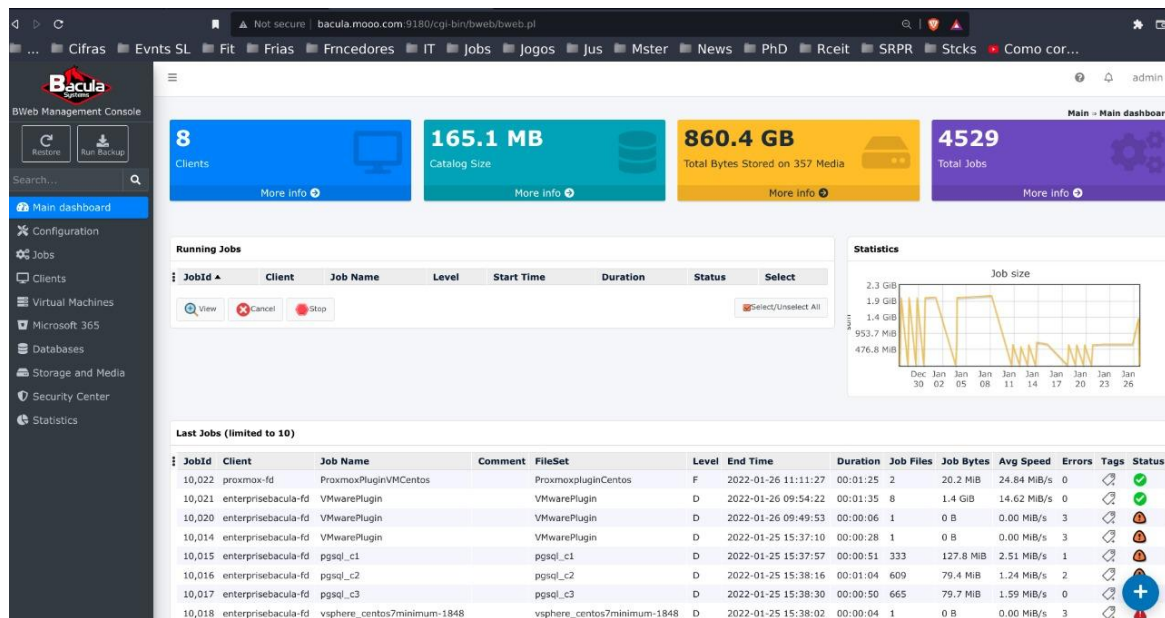


- ★ **Silent/Orchestration Install**
- ★ Autenticação segura (senha ou chaves)
- ★ Sistemas Legados

- ★ **Função de Inventário**
- ★ **Diferencial em Nível de Metadados**
- ★ Mínimo Impacto
- ★ Scripts antes e depois dos Jobs

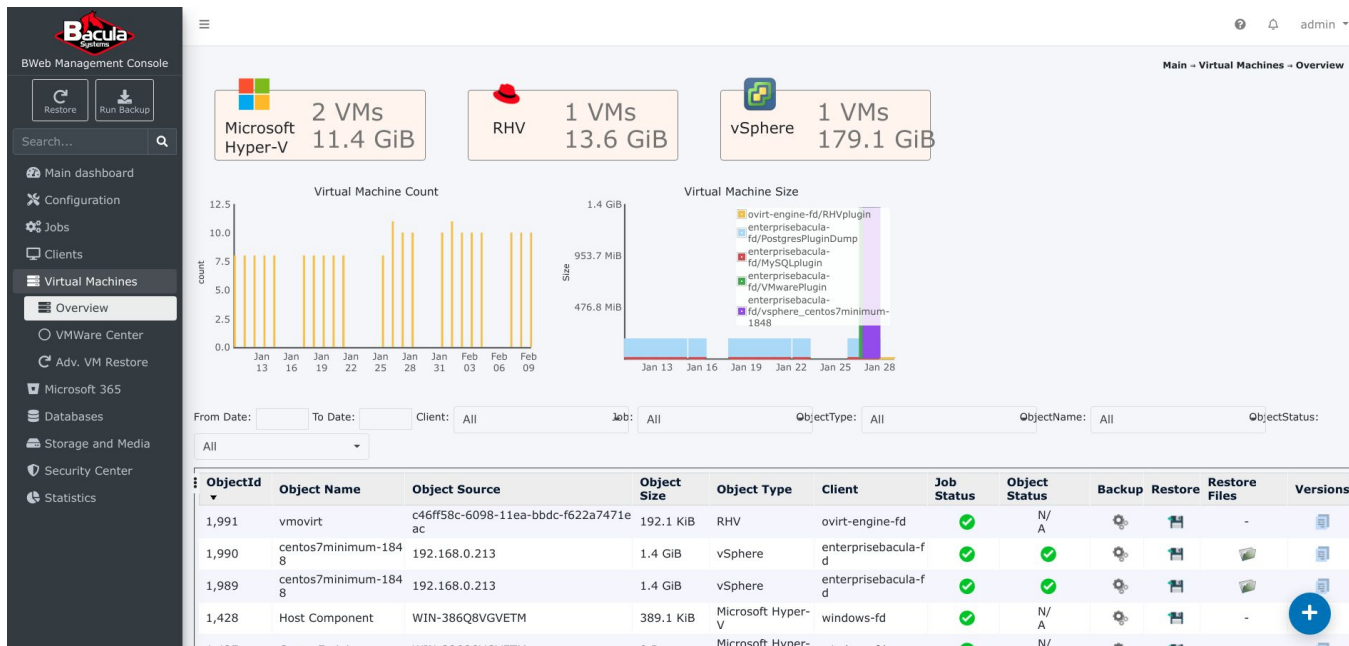


- ★ Livre de plugins Java/Flash para o navegador
- ★ Painéis de Auditoria e **Cyber Segurança**
- ★ Self-restore
- ★ Grupos de Clientes
- ★ ACLs de Usuário e Perfis
- ★ Gestão de Mídias e Armazenamento
- ★ Módulos de Monitoração, Estatística e Relatórios
- ★ Operação dos Plugins



BWeb

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- ★ Operação 100% gráfica
- ★ Design Centrado no Usuário
- ★ Operações com Poucos Cliques
- ★ Integração com o AD/LDAP
- ★ **Configuração e deploy de clients**
- ★ **App Mobile**

Bacula Enterprise
Configuration

WorksetClientsJobsFileSetsSchedulesPoolsConsolesStorage/AutochangersMessagesLogged as admin (logout)

Actions

View

Who Depends On It

Set Default Linux Options

Set Default Windows Options

Add Filter

Edit Fileset VMwarePlugin

CancelSaveCopyDelete

Fileset Name: VMwarePlugin

Description:

Enable VSS: ☒

Ignore Fileset Changes: ☐

Enable Snapshot: ☐

Include:

Exclude:

Add Include list

[Compression Dedup Signature] Plugins index

Current Changes

Help

To get help about Directives, click on the Directive label and the

VMware resource browser

Path: /ha-datacenter/VMS

..

centos7/minimum

teste-restore

CancelApply selection

Bacula Enterprise

ClientsJobsMediaStoragesStatisticsConfigurationHelpLogged as admin (logout)

Search...

Main » Statistics » Dedup Usage

Global Endpoint Deduplication storage usage

Storage: DedupDisk Refresh interval: 5 minutes

Deduplication Ratio:

Ref ratio: 6.63

Size ratio: 14.13

34.2 GiB Actual disk space used

482.8 GiB Equivalent standard File or Tape storage space

General:

Version: 1.0.3

Hash Name: sha512/256

Hash ID: 1

Hole Size: 4.0 MiB

Ideal Blocksize: 64.0 KiB

Max Blocksize: 65.0 KiB

Statistics:

Transaction: 2476

Hash Count: 1,205,527

Ref Count: 7,994,509

Dedupengine Errors: 0

Containers Errors: 0

Containers statistics

Chunk Used: 1,205,527

Chunk Allocated: 1,889,390

Disk Space Used: 34.2 GiB

Disk Space Allocated: 71.4 GiB

Container Sum Bitarray Capacity: 33.0 MiB

Read Chunk: 0

Calc Hash: 784

Update Refort: 0

Query Hash: 2138

New Hash: 681

Vacuum:

Start Time: 2018-10-29 17:14:48

End Time: 2018-10-29 17:14:55

Orphan Addr: undefined

Ref Count: 0

Ref Size: 0 B

Global Endpoint Deduplication storage containers

ID	Block Used	Block Capacity	Unused Disk Space	Disk Space	Bitarray Capacity	Usage	Usage Map
1	3	4	1024 B	8.0 KiB	524288	75%	
2	6,483	9,551	6.0 MiB	18.7 MiB	524288	67%	
3	10,941	13,774	6.3 MiB	40.4 MiB	524288	79%	
4	10,628	12,865	8.7 MiB	50.3 MiB	524288	82%	
5	5,574	7,063	7.3 MiB	34.5 MiB	524288	78%	

Bacula Enterprise

ClientsJobsMediaStoragesStatisticsConfigurationHelpLogged as admin (logout)

Search...

Storage Overview

Set DebugNetwork TestStorage: DedupDiskRefresh: 30 secondsDevice:Media Type:Device Type:Device Status:

Legend: QueuedProgressDoneErrorCancelledUnknown

Uploads: No upload transfer available

Downloads: No download transfer available

Device Details: Device Type: CloudMedia Type: CloudAWSDevice Status: Not running (Idle)Cache (Free/Total): 272.81 GiB / 369.98 GiBStatus: Cloud Status

Device Name	Status	Loaded	Volume Name	Slot	Running Jobs/Max. Jobs	Speed
AWS	-	-	-	-	0/20	-

Autochanger: FileChgr1

Device Details: Device Type: DedupMedia Type: DedupDevice Status: Not running (Idle)Space (Free/Total): 272.81 GiB / 369.98 GiB

Device Name	Status	Loaded	Volume Name	Slot	Running Jobs/Max. Jobs	Speed
FileChgr1-Dev1	-	-	-	-	0/5	-
FileChgr1-Dev2	-	-	-	-	0/5	-

Autochanger: FileChgr2

Device Details: Device Type: File

Jobs

JobID	Client	Job Name	Comment	FileSet	Level	Start Time	Duration	Job Files	Job Bytes	Avg Speed	Errors	Status
2,784	enterprisebacula-ld	MicrosoftADplugin		MicrosoftADplugin	F	2019-01-07 23:37:41	00:00:02	252	169.8 KiB	0.10 MiB/s	0	

DeleteView MediaView JobsView StatsView FileSetView UsageView File ListRun AgainRestoreEditVerify Data

Files usage

/Size go go back

197.3 MB

Wizards do BWeb

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Bacula Enterprise Workset Clients Jobs FileSets Schedules Pools Consoles Storages Messages

Configure new Backup Policy 1/3

This assistant will guide you to create a new Retention Policy. The optimal Pool and Schedule configuration will be computed from your requirements, and a Job template (JobDefa) will be created. If you have special requirements such as keeping the first backup of the year during 5 years, we recommend to add it later manually.

Recovery Window

The Recovery Window represents the period over your files will be available for restore, and the period over Recovery Points will be taken.

30 Days

Recovery Points

The number of recovery points (Full, Differential and Incremental backup Job) that Bacula will Keep. For example, having 30 Recovery Points over a Recovery Window of 30 days means that Bacula will run a backup everyday. Having 60 Recovery Points over 30 days means that Bacula will run a backup twice a day.

30

File Copies

How many copies of each file should be kept on your Storage area? Depending on your requirements, you may want to avoid keeping all eggs in one basket.

4

Refresh Estimation Cancel Next

Bacula Enterprise Workset Clients Jobs FileSets Schedules Pools Consoles

Configure new Backup Job resource 5/5

When?

Finally, you need to specify when the Backup Job should run. If the Schedule is not yet defined in the configuration, just add it [now](#).

Schedule Name:



Cancel Prev Next

Jobs FileSets Schedules Pools Consoles

2/3

...ts, you need now to specify your Backup requirements such and how much time the Job can run.

Can run after: 03 : 00 AM

Should be canceled after: 2 Hours

Cancel Prev Next

<http://www.bacula.com.br/demo-online-bweb-bacula-enterprise/>

Portal de Autosserviço BCloud



- Usuários regulares podem configurar o backup e a restauração de seus dados
- Gerenciamento de faturamento e cotas
- Permite às empresas fornecer backup como serviço (**Backup-as-a-Service - BaaS**)

The screenshot displays the Bacula web interface. At the top, there are icons for 'My data' (a database cylinder with a gear) and 'Download center' (a database cylinder with a blue arrow). Below these is the 'Backup job list' section with filters for Level, Status, and time range, and an 'Items number' of 10. A table lists backup jobs, with one job for 'Wanderlei' selected. The 'Backup' section shows details for the last backup: Last Backup: Wanderlei, Last Backup Time: 05/07/18 16:31:56, Size of the Last Backup: 0 B, Total Size: 51.1 MiB (0 B). The 'Next Backup' section shows a table with columns for Name and Scheduled Time, with 'Wanderlei' listed. The 'Running jobs' section shows a table with columns for Name, Start Time, Job Bytes, Job Files, and Action, with 'Wanderlei' listed. On the right side, there are buttons for 'Select files to restore', 'Restore History', 'Delete Client', and 'Delete this Client'.

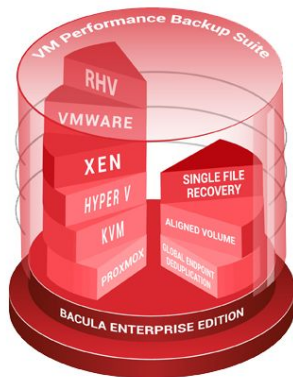
Job name	Level	Start time	Duration	Job files	Job bytes	Avg speed	Errors	Status
Wanderlei	F	07/05/18 16:31:56	00:01:09	66	51.0 MiB	0.74 MiB/s	0	✓

Name	Scheduled Time
Wanderlei	

Name	Start Time	Job Bytes	Job Files	Action
Wanderlei	07/05/18 16:31:56	0	0	View Cancel

Plugins VMs

- VMware
- Hyper-v
- KVM
- Xen
- Proxmox
- RHEL/oVirt
- Nutanix
- **Azure**



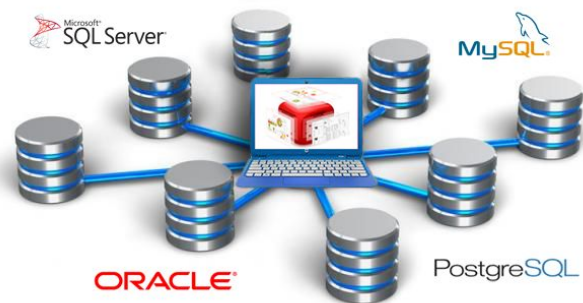
- ★ Backup sem Cliente
- ★ Auto-Descoberta de Novas Máquinas
- ★ Backup Diferencial no Nível de Bloco
- ★ Restauração Automática de VMs
- ★ Restauração granular de um arquivo
- ★ Instant Recovery

Plugins DBs



- MYSQL
- PostgreSQL
- Oracle DB
- SAP
- SAP Hana
- Sybase ASE
- MS SQL
- Active Directory
- LDAP
- MongoDB
- DB2
- Cassandra

- ★ Auto-Descoberta de Novos Bancos
- ★ Paralelismo
- ★ Backups Diferenciais e Incrementais
- ★ PITR / Archive Log
- ★ Restauração Granular e Automática
- ★ Backup de Clusters



Outros Plugins



- **Microsoft 365**
- **Google Workspace**
- **Backup de S3**
- **CDP** (replicação de arquivos e VMs*)
- **Docker, Kubernetes, OpenShift, Swift**
- **Hadoop HDFS**
- **Bare Metal Linux e Windows (P2V, P2C, V2C etc.)**
- **Zimbra, MS Exchange**

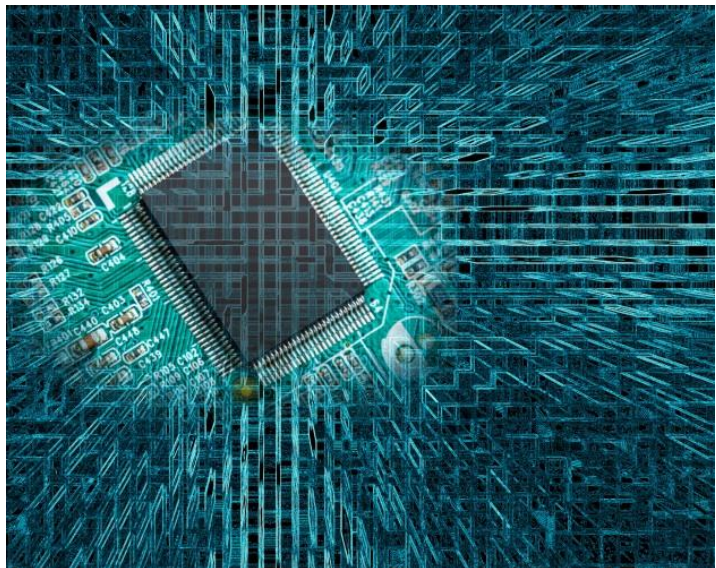
- **Sharepoint**
- **VSS**
- **Snapshot Linux (LVM, ZFS, BTRFS etc.)**
- **bpipe**
- **Delta**
- **NDMP**
- **Shared Storage SAN**
- **Incremental Netapp**
- **Cloud (Oracle, Amazon Glacier, Google, Azure, Swift e S3)**

Google Workspace



Outras Funcionalidades

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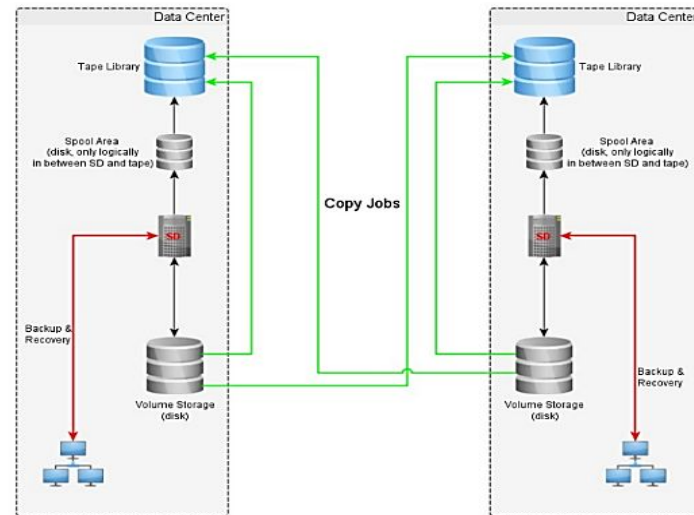
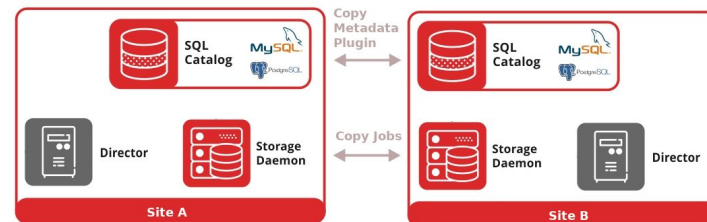
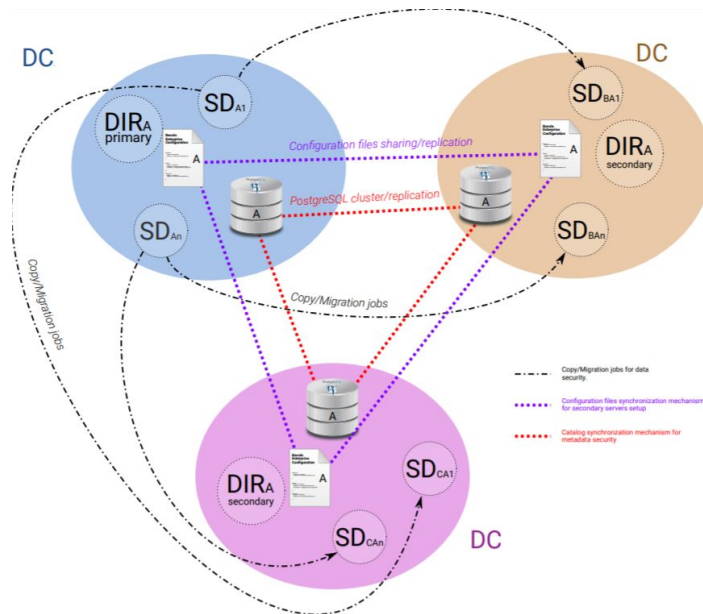
- **Virtual Full - Todas as Cargas**
- **Transversamento de Firewalls e NAT**
- **MIBs para todos os componentes**
- 30 Anos Retrocompatibilidade de Backups
- Remoção de Dados Específicos - LGPD
- Compressão Apenas do Tráfego de Rede
- Job de Cópia e Migração (Replicação do Backup)
- Limite de Banda
- Sem Vazamento de Memória
- Reciclagem Automática de Volumes
- Compatível com Estratégia GFS e outras
- Multiplexação e Paralelismo

Alta Disponibilidade

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BRASIL E AMÉRICA LATINA



- Cluster de Catálogo, Réplica das Configurações
- Job de Cópia com Réplica de Metadados ou DRBD





Alcatel-Lucent

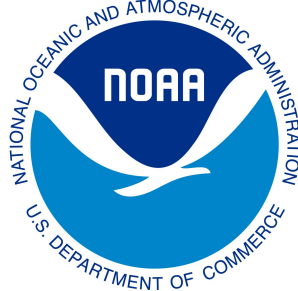
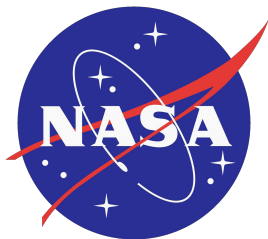


SIEMENS



Volkswagen







Hisense



StanleyBlack&Decker



TERESINA
SHOPPING



TRTs
x10



LOCAWEB



TREs
x02



MPEs
x02

POUPEX

Unimed



CÂMARA MUNICIPAL DE
CAMPINAS



iipsemg



DUFRY



DATA COM

PUC
RIO



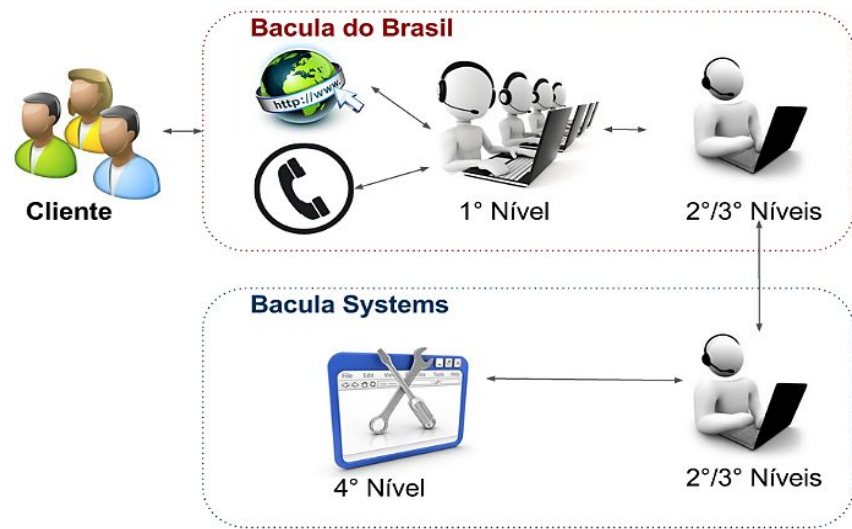
Rio Energy

OABRJ

Serviços Incluídos



- Sizing, Arquitetura & Políticas
- Implantação presencial/remota
- Treinamento in-company e certificação



- Suporte técnico 24x7 com até duas horas de atendimento da **Bacula Brasil e América Latina**
- **Treinamento avançado no centro de treinamento (Flórida e Europa)**
- Atualizações de todos os componentes do Bacula Enterprise
- Repositório online exclusivo com pacotes de instalação de todos os SOs suportados

Até 77% de economia

- Especialistas em solução de backup
- Modelo simplificado de tarifação
- Estrutura enxuta



1. Quantidade Clientes de Backup (VMs, Servidores, Containers etc.)

- Faixas flexíveis (1-20; 21-50; 51-200; 201-500; 501-2000; 2001-5000 etc.)

2. Quantidade de Plugins

- Os plugins tem uso ilimitado
- Preço fixo

1. Subscrição

- Paga-se o mesmo valor de contratação e renovação das licenças e suporte todos os anos

2. Licença Perpétua

- Investimento inicial maior
- Uso permanente das versões baixadas
- Renovações anuais (opcionais - garantia) apenas 20% do preço inicial

Referências



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www.bacula.com.br

heitor@bacula.com.br

Diretoria Comercial

Melissa Faria – melissa@bacula.com.br