

Data Protection for Fujitsu Integrated System PRIMEFLEX with Veritas Software

White Paper

Fujitsu Integrated System PRIMEFLEX is your fast track to modern data center infrastructures no matter if converged, hyper-converged or hybrid cloud.

Get insights into how Veritas NetBackup Software can help to protect your business-critical assets in PRIMEFLEX environments.

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VERITAS



1 Joint solution from Fujitsu and Veritas

The proven, long-term partnership between Fujitsu and Veritas provides storage solutions and services to accelerate business outcomes in your data-driven digital transformation journey. Fujitsu datacenter solutions and services with Veritas multi-cloud data management ensures secure, protected, and flexible data management and protection for your physical, virtual, and multi-cloud environments. Veritas NetBackup software and appliances deliver a single platform with enterprise resiliency features and functionality to protect and recover data wherever it resides. The deep integration with Fujitsu technology simplifies the protection of your data-driven enterprise across hybrid and multi-cloud environments. Organizations can dramatically reduce the risk and impact of system downtime, avoid point solutions and realize significant cost savings.

This white paper for technical decision makers and influencers covers the following topics:

- *NetBackup licensing structure*
- *Front End Terabytes and backup policies*
- *Future innovation*
- *Method of deployment*
- *Veritas NetBackup in a PRIMEFLEX environment*
- *Data protection infrastructure with Veritas for PRIMEFLEX*

2 Understanding the Veritas NetBackup licensing structure

General description of the licensing strategy

The simplified statement: 'You only pay for what you have chosen to be protected by Veritas NetBackup during the past 90 days' gives you a basic understanding of the Veritas licensing strategy.

This allows you to control costs and optimize your investments. To gain this benefit the user should:

- *know what the companies "active, in use, hot or new data" is and the location of this data*
- *analyze and clean up this data (for more details, see section: Analyze your data, chapter 4)*

The core benefit of using Veritas to protect your data is having the peace of mind that you are always able to access all non-expired data you have ever protected and backed up — no matter how much there is, or how many copies of "secondary, not in use, cold data" exist.

The following licensing options of Veritas NetBackup Software exist:

- **Purchasing option - Perpetual License**
Fujitsu offers Veritas NetBackup licenses which can only be purchased in combination with maintenance (the eligibility for software updates and version upgrades as well as hotline support). Customers can choose which support structure they prefer: Maintenance can be provided either as a Fujitsu Support Service or as a Veritas Support Service.
Choosing Fujitsu makes sense in that Fujitsu acts as Single Point of Contact (SPOC) for the whole solution (including the Fujitsu ETERNUS CS Data Protection Appliance as well as Integrated System PRIMEFLEX). This SPOC approach and the technical solution support option of a Fujitsu Integrated System PRIMEFLEX make these two solutions a perfect match.

- **Purchasing option – Subscription License**

The other way to purchase Veritas NetBackup software is by choosing subscription licenses through Fujitsu. Veritas provides a flexible software subscription program that allows you to purchase entitlements to Veritas's products and use them however you want across your public, private, and on-premises environments.

- **Purchasing option for Service Provider**

Furthermore, Fujitsu and Veritas together offer a special consumption-based license model eligible only for (Managed) Service Providers (VSPP). It uses the same Veritas unit metering technologies, but offers accounting methods requested specifically for this marketplace. If you are a Service Provider and you would like to know more about the VSPP Program, please contact us at veritas@fujitsu.com

3 Multi-cloud optimized NetBackup and the backup policies

With automated and intelligent policies and elastic services, NetBackup brings enhanced protection and simplified operations to the broadest collection of workloads to date including traditional, platform as a service (PaaS), software as a service (SaaS), and containerbased applications. It provides secure, resilient, orchestrated delivery of intelligent, event-driven workload protection at the edge, on-premises, and in the cloud, reducing data protection gaps by minimizing human error and time-consuming administrative tasks with enhanced capabilities:

- Integrated SaaS application data protection
- Integrated multi-cloud analytics and insights
- Kubernetes multi-cloud recovery
- Subscription licensing
- Cloud scale technology
- Enhanced cyber-resiliency

The Veritas Capacity Meter model reduce cost

The way to start with Veritas is by drilling down into how many Front-end Terabytes (FETB) you plan to back up in your environment — no matter which spending model (perpetual/subscription) you choose. The calculation is called the Veritas Capacity Meter model. The unit of metering is counting the Front-End Terabytes (FETB) measured as data volume — independent of their current non-compressed or compressed state (but non-deduplicated) on the original source for the backup (server, storage, or cloud).

Protect your data with the right backup policy

The data to be protected are put into an active backup policy. All active policies add up to the FETB license volume. Inside the Veritas Web-portal GUI, you will find a web app called "Smart Meter", showing you the total FETB backup volume that reflects your choices. It is important to understand that one great benefit from Veritas is the differentiation between "Data to back up" and "Data to restore". Your FETB volume will be reduced every time you retire a backup policy over the lifetime of the product usage as your data center changes and the data from that source is changing its state to an "as is" state. This "cold data" is still accessible through NetBackup but does not push your license cost up any further.

To give an example: if you decide no longer backup the 10 MB PowerPoint, the FETB license count will be reduced by those 10 MB, 90 days after the backup policy has run that included it for the last time.

A Terabyte is a Terabyte

The Front-End Terabyte (FETB) license volume is not inflated by how often you do your backup or how many copies of the data you want to keep accessible. In every single active backup policy, you can configure how many copies should be created and to what target(s) these copies should be sent. You can back up data to the cloud, in the cloud or from the cloud, irrespective of the media and the data optimization technology (compression/de-duplication, erasure coding) in the backend. It is also independent of how often the data changes or how frequently you want to run your backup. Moreover, you do not need to worry about how long you want to keep your backups or the retention period — if you have capacity on your backup storage like the Fujitsu ETERNUS CS Appliance, you can do whatever you like. With our support for NAS and our unique tape automation functionality, you can pump Exabytes of data into the solution.

Backup is not long-term archiving!

Archive solutions typically offer functionality like universal WORM and file/mail content indexing or automatic secure deletion after retention periods have passed.

4 Analyse your data and review your backup policies

A very good exercise to sharpen the Front-End Terabytes is to analyze what is there and find out what data can be archived or even deleted. Fujitsu offers complementary solutions to NetBackup e.g. Veritas [NetBackup IT Analytics](#) or [Fujitsu SystemInspection Service for Storage](#) based on NetBackup IT Analytics that allow you to gain insights into your data. You can determine things like:

- When was the data last accessed?
- Is the data orphaned because the user who created it is no longer with the company?
- Is it a duplicate data? And more.

Veritas data insights tools and services for enterprise businesses do not stop here. Through built-in information classifier, you can even manage intricate tasks like the risk profiling of data, which can check, for example, whether it contains PII (Personally Identifiable Information) like passport data, credit card details, etc. This exists to help drive informed decisions as to which data can/should be archived or safely deleted, but also which data can be moved to the cloud and which data should not.

To complement this system, Fujitsu also offers the Veritas archiving solution [Veritas Enterprise Vault](#) (for performing mail and file archiving or eDiscovery). The optimum implementation that combines backup and archiving in one solution is the [Fujitsu Storage ETERNUS CS8000](#). This data protection appliance offers not only supreme performance for backup and restore but can also be partitioned in dual-use mode with archiving. Fujitsu customers especially appreciate the Virtual Tape library (VTL) functionality as well as the path-to-tape (PTT) automation – making it a super solution for manifesting both worlds on one system.

5 Future innovation and investment protection

More advantage of NetBackup Capacity Meter Model

The Veritas NetBackup Capacity Meter Model (based on FETB) has another great advantage. This license model provides a single key for all existing NetBackup features and functions as well as offering investment protection for upcoming future developments.

What do we mean by that?

Over the past few years, many customers have decreased their utilization of Oracle databases, and instead adopted MySQL databases. In parallel, they have decreased the number of physical servers while increasing the number of virtual servers. Back in the old days, it was typical that customers had to license every database environment separately and per server.

Today's Veritas investment protection does not ask for any of this:

With NetBackup you can back up any data source or type including files, VMs, containers, databases, or lakes of big data. In addition, what is remarkable, too is that with the introduction of the current licensing model, those customers were not required to perform any Veritas re-licensing tasks – it all transitioned smoothly.

NetBackup Capacity Meter

In recognition of the high adoption rate of virtualization in today's companies and the immense data growth this is driving, Veritas recently introduced a flexible element in the data type count in the form of the NetBackup Capacity Meter. With the '1 TB NetBackup license' you can protect either 1 TB of data on physical servers or 1.5 TB of data on virtual servers. Veritas calls this "Flex-licensing". This means a big bargain for your Fujitsu Integrated System PRIMEFLEX.

NetBackup Parallel Streaming™

The technology complements modern, scale-out workload architectures found in Big Data, Hyper-converged and Open-Source systems. It breaks with the old paradigms of the mandatory installed backup client. The two major advantages are:

- The backup and restore process works completely agentless through APIs, thus eliminating complexity and dependencies.
- Plus, the technology is enabled on the NetBackup side with a NetBackup release independent software plug-in, which means that you do not need to perform any upgrade tasks on the backup servers to gain the benefits of protecting a new workload.

This new backup & recovery technology was designed specifically following the same principles on which scale-out architectures are built (Web-Scale architectures like Google or Azure). As the needs of the cluster grow, and more data nodes are added to increase processing power and storage capacities, NetBackup Parallel Streaming allows the user to add additional Backup Hosts to meet the growing bandwidth requirements. In this manner, backup and recovery scalability mirrors the needs of the cluster environment without ever having to install clients or agents on Name Node or Data Node servers.

6 You choose your method of deployment

Deployment options depending on your needs

Regardless of whether you protect the data in a physical, virtual or cloud environment, the NetBackup itself can also be deployed in any shape or form:

- From choosing a physical server in a Build-your-own approach
- Or as a NetBackup Appliance model as well as a virtual appliance
- In a virtual machine
- Or in the cloud (e.g., AMIs = Amazon Machine Image in the AWS Cloud)

That independence and flexibility now matches very well with the Fujitsu PRIMEFLEX Integrated System characteristics. Choosing Veritas NetBackup provides such a holistic solution that customers have the peace of mind to be able to run even multiple PRIMEFLEX solutions with different OS environments in parallel. That is true for all the different backup methods Veritas is flexibly providing.

Choose the right backup method

Backup administrators can always choose between these types of backups for their policies:

- VMware Continuous Data Protection: Provides “Stun-Free” backup with low impact on production to provide low RPO/RTO for tier 1 workloads
- Kubernetes backup support for namespace and storage for the VMware Tanzu platform
- Full Backup: transferring the complete physical or virtual server data
- File-Incremental: building on a full backup, only the changed/new files are being transferred
- Block-Incremental: building on a full backup, only the changed/new blocks are being transferred
- Synthetic Full Backup: Synthetic backups are created from a full backup and from all subsequent incrementals. When you do a synthetic full, you roll up the incrementals back to the last full and create, in essence, an artificial new full backup without having to do any backup on the client.

Several restore methods are available

- VMware Instant Rollback: Reduces recovery time from ransomware and other events from hours to minutes and enables customers to plan upgrades with confidence.
- Instant VM recovery performs a remote mount of an ESXi data store – starts the VM and then begins to transfer the data back to the ESXi cluster using VMware Storage vMotion.
- Instant VM access uses the unique Veritas Provisioning File System. The administrator can even launch the simultaneous restore of hundreds of VMs. This form of restore can act as a best practice for site recovery management (only available with Veritas NBU appliance).
- Full restore is independent of physical or virtual servers can be done via Fiber channel or IP.
- Single File restore is possible regardless of which file system you are using.

The advantage of performing a “synthetic full backup” in fully software-defined environments, as with PRIMEFLEX HCI, is the ability in the restore process to restore the complete VM at any point in time selected. Therefore, instead of having to perform multiple sequential restore operations, the customer can access the full copy of the virtual machine at once.

7 Specifics for Fujitsu Integrated System PRIMEFLEX

We thought it would be interesting though to detail what Veritas has developed specifically for the different Fujitsu Integrated Systems PRIMEFLEX solution scenarios:

PRIMEFLEX for Nutanix Enterprise Cloud simplifies the deployment across edge-core-cloud

NetBackup for Nutanix AHV leverages agentless features such as granular restores, resource throttling, intelligent VM grouping and multi-protocol Files support to provide resiliency to the Nutanix Hyperconverged environment saving time, reducing risk, and improving overall cost reductions. NetBackup together with Nutanix Enterprise Cloud offers a unified solution built on a converged infrastructure, that easily scales while providing best-in-class performance for petabyte-level capacity and paves the way to IT as a service through convenient, self-service operation, a ransomware protected environment.

This web-scale cluster solution represents a perfect match to deploy Veritas NetBackup Parallel Streaming. It is not limited to solely backing up the VM and container cluster environment – you can also create backup policies to back up attached Hadoop Data Lakes.

PRIMEFLEX for Microsoft Storage Spaces Direct the hyper-converged solution for Windows-based servers

With Windows Server 2016, Microsoft switched their backup technology from VSS (Volume Shadow Copy Services) to the new WMI (Windows Management Instrumentation) backup method – more deeply integrated with Hyper-V. The preferred backup method is to use block-level incremental backup (BLIB), as it reduces the size of the virtual machine backup image. BLIB uses Microsoft's resilient change tracking (RCT) to perform faster backup of the virtual machines. BLIB backups support recovery of the full virtual machine and of individual files.

PRIMEFLEX for VMware vSphere or PRIMEFLEX for VMware vSAN are solutions for VMware applications

There is a VMware VADP (VMware vStorage API for Data Protection) Interface where Veritas fully implements the VMware methodology of how to put VMs into a “consistent” state (without pausing the active VM) and then performing a backup of that VM. Without reinventing the wheel, Veritas operates based on VMware CBT (Changed Block tracking) technology. Nevertheless, Veritas does more than just this: Veritas understands the data stream and the contained file system structure during data transmission – irrespective of the file system or OS used in the VM. That makes it possible to present a full copy of the requested VM and its content at any selected recovery point together with global deduplication. Veritas customers can strategically rely on the company's policy to be always the first to adopt updates in this VMware framework for data protection.

This solution is certified for VMware vSAN and VMware Cloud on AWS and is designed to help VM admins instantly access and recover data and deliver value in as little as three clicks.

In addition, Veritas NetBackup offers full VMware vRealize Suite support, ideal for VMware Cloud Foundation on PRIMEFLEX for VMware vSAN. Veritas enables the data protection for 2-tier customers to perform a wide range of Per-VM-Self-Service functions in a fully software-defined datacenter environment.

Optimize your SAP infrastructure with PRIMEFLEX for SAP HANA / PRIMEFLEX for SAP Landscapes

Veritas not only fully supports the “SAP backint” interface, but also the more recent “SAP Snapshot method”. On top of that, the Veritas engineers have enhanced the NetBackup optimization functions to extend also into SAP environments. These functions massively reduce impact on CPU, memory and network utilization on the production systems.

PRIMEFLEX for secure and compliant data protection

Whether data is in the cloud, on-premises or somewhere in-between, NetBackup, designed in partnership with VMware, for VMware, alleviates business risks such as data loss, downtime, security risks or human error. Provides optimized data recovery even for VMs in an extra-large environment or that use VMware Trusted Platform Module (vTPM) for high-security environments. Plus, built-in protection against ransomware attacks, including support for immutable storage.

8 Summary - choosing the right backup & archiving infrastructure

Long before choosing the PRIMEFLEX integrated systems selling approach as a go-to-market for converged, hyper-converged and hybrid cloud solutions, Fujitsu developed the ETERNUS CS data protection appliance for backup and archiving. Also fully integrated into Fujitsu WebArchitect, this appliance looks back on 30 years of successful project business.

Below is a schematic overview of how Fujitsu suggests designing an end-to-end solution with PRIMEFLEX, Veritas and ETERNUS CS.

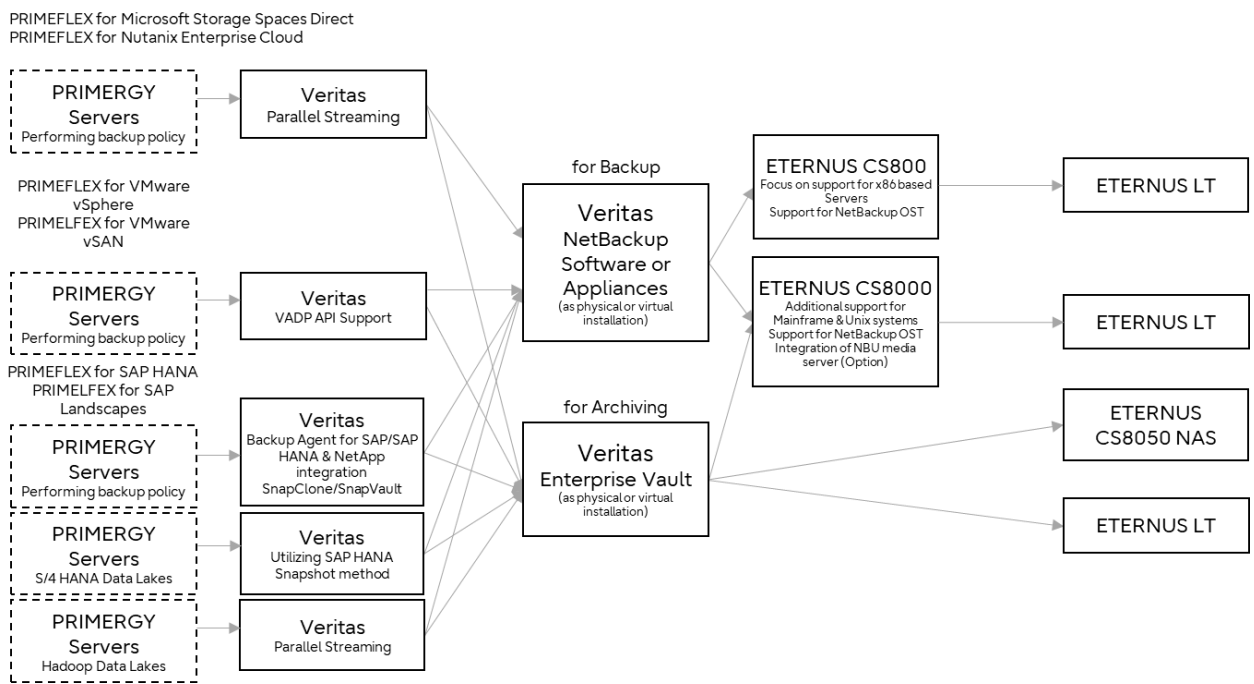


Figure 1 Combination of PRIMEFLEX solutions together with Veritas software and Fujitsu data protection

9 Links with further information

- Internet:
 - www.veritas.com
 - www.veritas.com/fujitsu
 - www.fujitsu.com/veritas
 - www.fujitsu.com/primeflex
 - www.fujitsu.com/dataprotection
- White Paper: [Data Protection for the Digital World](#)

Contact us

to find out we can help you to protect your data in your hybrid environment
to ensure 24/7 business continuity.

Contact

Fujitsu Technology Solutions GmbH

Mies-van-der-Rohe-Strasse 8

D-80807 Munich

Internet: www.fujitsu.com/dataprotection

Date: 2022-09-30 ww-en

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