

Arcserve® Unified Data Protection Technical Product White Paper

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Introduction

Fueled by data growth and technology advancement such as virtualization, current data protection architectures come up short in a number of operational areas and essentially perpetuate data protection islands or silos. Upon closer examination, there is also widespread user discontent leading to a re-examination of the current infrastructure: many data protection solutions are limited in scope and the multiplication of point solutions is creating complexity that has become very hard to manage for organizations whatever their size.

Today's IT is all about service delivery. Successfully managing the interdependence of its systems and applications in understanding and proving that you can resume IT service delivery in a reasonable amount of time is crucial. Metrics such as Recovery Point Objective (RPO) and Recovery Time Objective (RTO) have become synonymous with business availability.

Current data protection solution architectures make poor overall use of their resources due to a lack of ability to measure and mitigate, process inefficiencies. Obsolete solutions with expensive licensing or niche data protection capabilities only compound the problem by adding complexity on top of complexity.

Until now.



Introducing Arcserve® Unified Data Protection

Arcserve Unified Data Protection is the first solution to combine industry-proven backup, replication, high availability and true global deduplication technologies within one solution. Arcserve delivers the only data protection solution suite to deliver enterprise-grade capabilities without the complexity often associated with enterprise solutions. With Arcserve Unified Data Protection (UDP), small and over-stretched IT teams safeguard cloud, virtual and physical data by protecting to and from any target, while configuring and managing all aspects of data protection through a single, elegantly simple user console. As business needs change or requirements evolve, IT teams easily turn on high-performance capabilities without burdensome forklift upgrades or layering on additional point solutions. Arcserve UDP leverages multiple modern technologies to optimize operational efficiencies. This feature-rich solution enables organizations to scale their IT environments easily, while delivering against their recovery point and recovery time objectives, on-premise, off-premise or in the cloud. Traditional, overly complex backup policies are replaced by modern task-based data protection plans and deep integration with hypervisors fully automates complex, mundane, repetitive tasks.

Arcserve UDP is based on a next generation unified architecture for both virtual and physical environments. Its unmatched breadth, ease of use, and Assured Recovery capabilities set it apart from other data protection solutions. This unified solution offers innovative features such as:

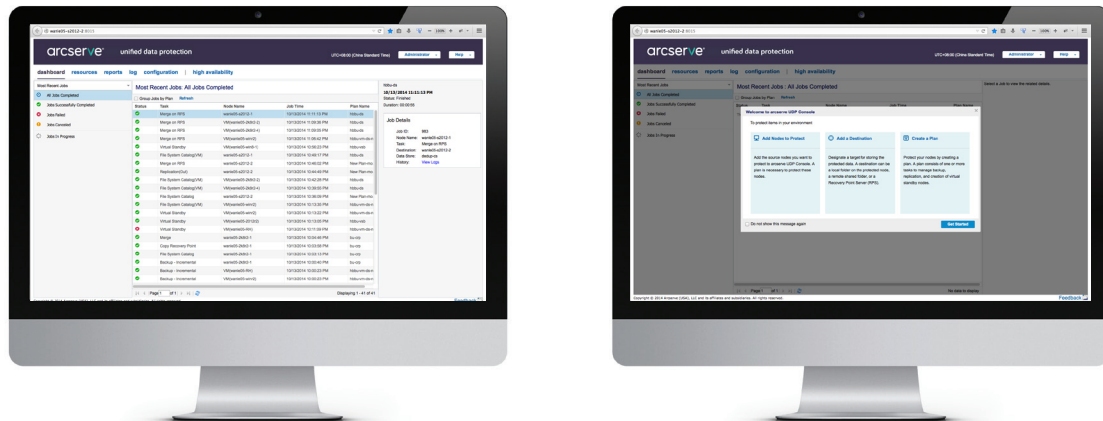
- Unified management console
- Simple task-based data protection and availability plans
- Agentless backup for VMware and Hyper-V (Windows and Linux VMs)
- Support for physical systems (Windows and Linux)
- Built-in replication and high availability
- True global deduplication
- Migration of disk images to tape, with granular restore
- from disk or tape
- Instant VM recovery
- Instant Bare Metal Restore
- Reboot-less Agent deployment
- Role-based administration

Arcserve UDP Key Differentiators and Benefits

Ease of Use: Its unified management capabilities and centralized reporting and deployment simplify data and system protection and recovery operations dramatically, when compared to point solutions. It thus improves the operational efficiency of data and system protection recovery.

Solution Breadth: Arcserve UDP provides a broad spectrum of enterprise-level functionality typically found in multiple point solutions such as imaging, replication and high availability, yet is easy to deploy, use and manage, on-premise, off-premise or in the cloud, across multiple virtual and physical platforms. It also includes protection of popular cloud applications and fully leverages public cloud infrastructures for optimized Disaster Recovery.

Automated DR/Assured Recovery™: In combination with a broad set of features for deploying advanced data protection, recovery and availability strategies, Arcserve UDP enables the automated disaster recovery testing of business-critical systems, applications and data, without business downtime, or impact to production systems.



Innovating With the Next Generation Unified Architecture

Arcserve UDP introduces an innovative, next-generation service oriented architecture. This new architecture is “services” focused: data and system protection and recovery now become IT services that can be delivered internally or externally, by in-house IT professionals or service providers.

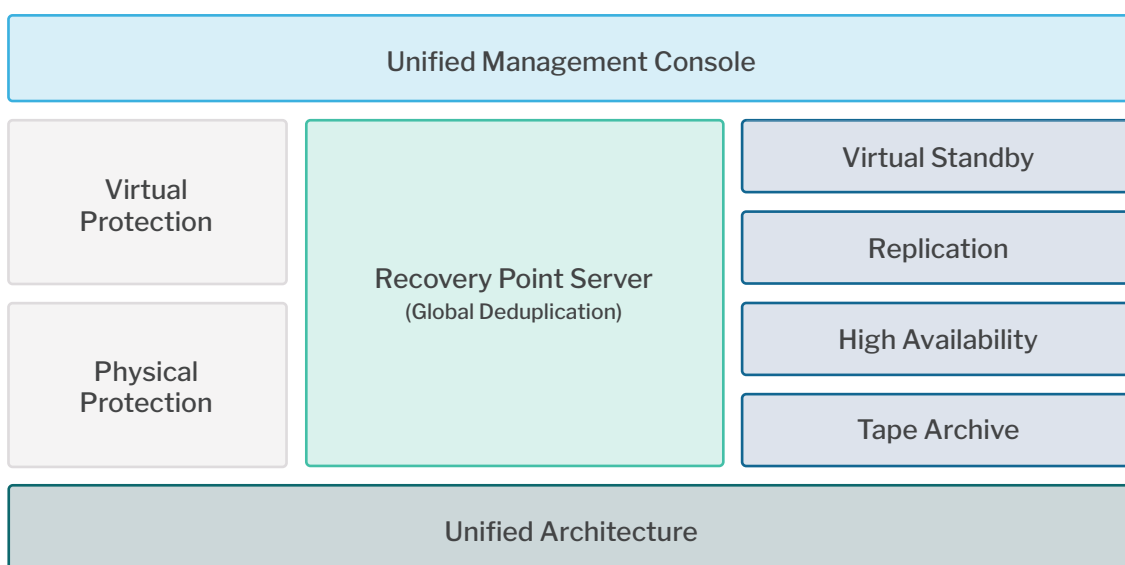
It is innovative in that it introduces several new technologies while leveraging multiple, industry proven solutions into a single, unified platform.

It is differentiated because of the key technologies and innovations it includes, making it the next generation of unified platforms for data protection, recovery and availability.

The unified architecture consists of the elements outlined in the diagram below. Individual elements can reside on a single server, or be distributed or decoupled across multiple physical or virtual servers to provide a highly scalable solution.



Arcserve UDP Architecture Up Close



End Point Protection

- Agentless, single pass backup for virtual host protection
- Hybrid agent for physical system protection with independent local UI and restore or managed centrally
- Reboot-less agent deployment

Public Cloud Support

- Supports popular Public Cloud vendors
- Leverages APIs/Integration to provide backup and disaster recovery in the cloud

Recovery Point Server (RPS)

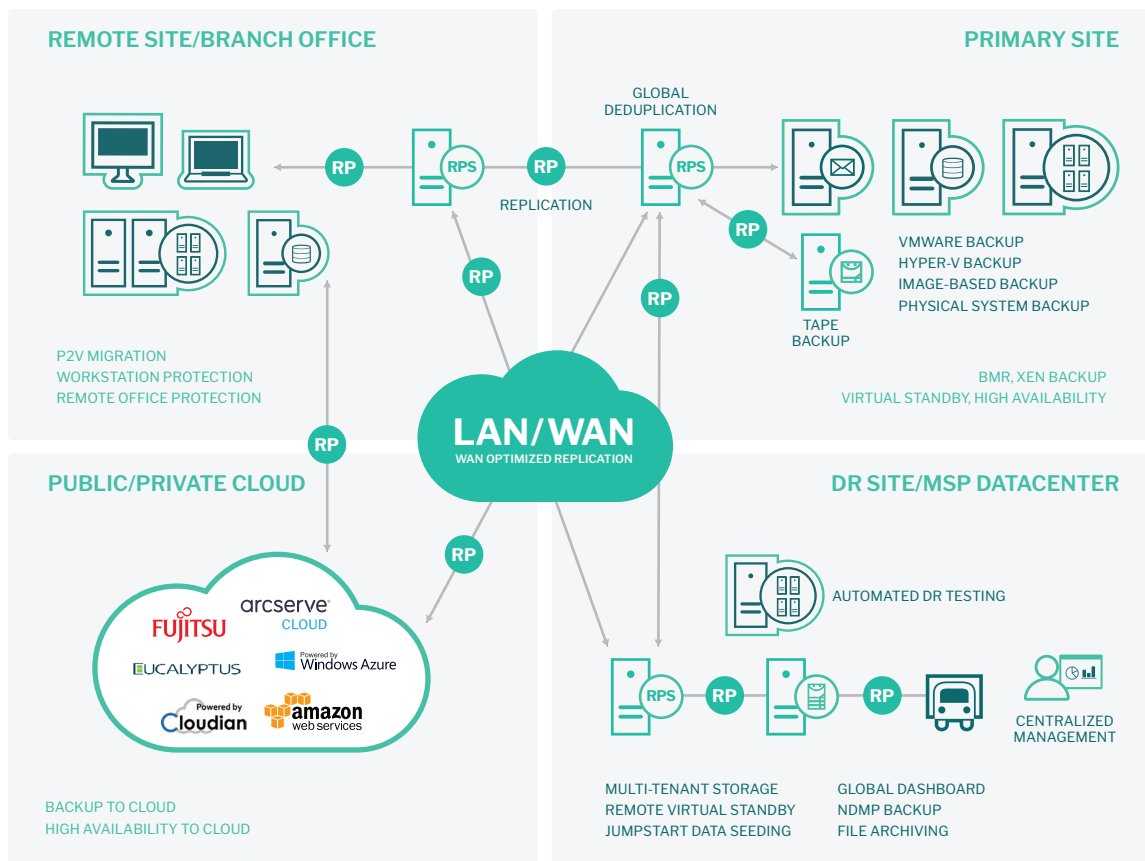
- Global information store
- Source-side data reduction
- Global de-dupe across nodes
- Built-in replication
- AES encrypted backups
- Data Seeding
- RPS Jumpstart (Offline Synchronization/Data Seeding)
- Enterprise Storage Array snapshot support

Other Elements

- Central management console to manage thousands of nodes
- Instant VM recovery for fast and non-disruptive disaster recovery
- Instant Bare Metal Restore for Linux physical systems
- Archive backups/RPS to tape with in-place re-hydration
- Decoupled to scale, added as needed
- Advanced Reporting including RPO/RTO reports



Arcserve UDP – A Disaster Recovery Topology



Unified Management Console

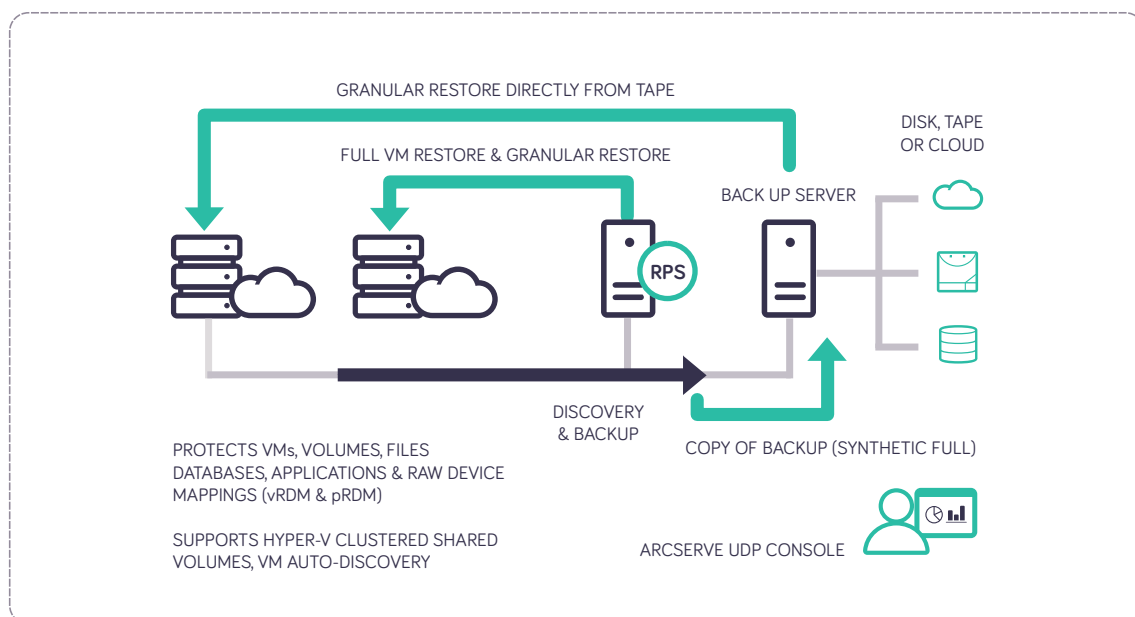
This architectural element provides administrators with a single, web-based management console that enables the entire Arcserve UDP environment to be managed quickly and easily. The unified management console makes use of wizards, which greatly simplifies deployment, day-to-day management, reporting and tape functions.



Agentless VM Backup

- Fast, single-pass backup of all VMs for VMware and Hyper-V environments
- Centralized node, group and plan management from the unified management console
- Integration with VMware and Hyper-V technologies, such as vSphere, VDDK, VIX, vDS etc., to simplify management
- Auto-discovery of VMs on target hypervisor
- Backup of changed blocks only
- File and folder level recovery of Windows and Linux VMs
- Infinite Incremental Backups (I2 Technology™)

Agentless Backup for VMware and Hyper-V





Hybrid Agent

The Hybrid agent applies to physical (and virtual) system protection and provides users with the ability to restore locally, or to be managed centrally by the UDP console.

Recovery Point Server (RPS)

The Recovery Point Server (RPS) is a new architectural component in our portfolio, and it is a unique set of technologies that provide the fundamental building blocks of the Arcserve UDP solution. Among the key features of RPS are:

1. True Global Deduplication

Setting Arcserve UDP aside from its competition, our global deduplication dramatically reduces the amount of data actually transferred during backup cycles.

The ability to deduplicate across all the clients in the infrastructure is central to limiting the unnecessary storage and transfer of existing data – this is what makes it “global”: data is deduplicated across nodes, jobs and across sites. The global deduplication database is distributed so that all source and target data can be deduplicated across all RPS servers. Since backup data is deduplicated before it is actually transferred to the target RPS, only changes are sent over the network, which improves performance and reduces bandwidth usage. This entire process is secured with datastore-level encryption and per-session passwords.

The global deduplication in Arcserve is different from many other vendor solutions which only deduplicate data on one node or one backup job, thus reducing the overall potential benefits, in terms of bandwidth and storage savings.

With Arcserve UDP, you can optimize storage requirements and bandwidth as well as accelerate protection and recovery across sites. In addition, the solution allows for in-place re-hydration of data, for fast granular restore, including from tape.

We also offer an option to store the deduplication database index on high performance SSD, which is a great way to improve performance, efficiency and reduce costs, compared to a pure memory-based approach.

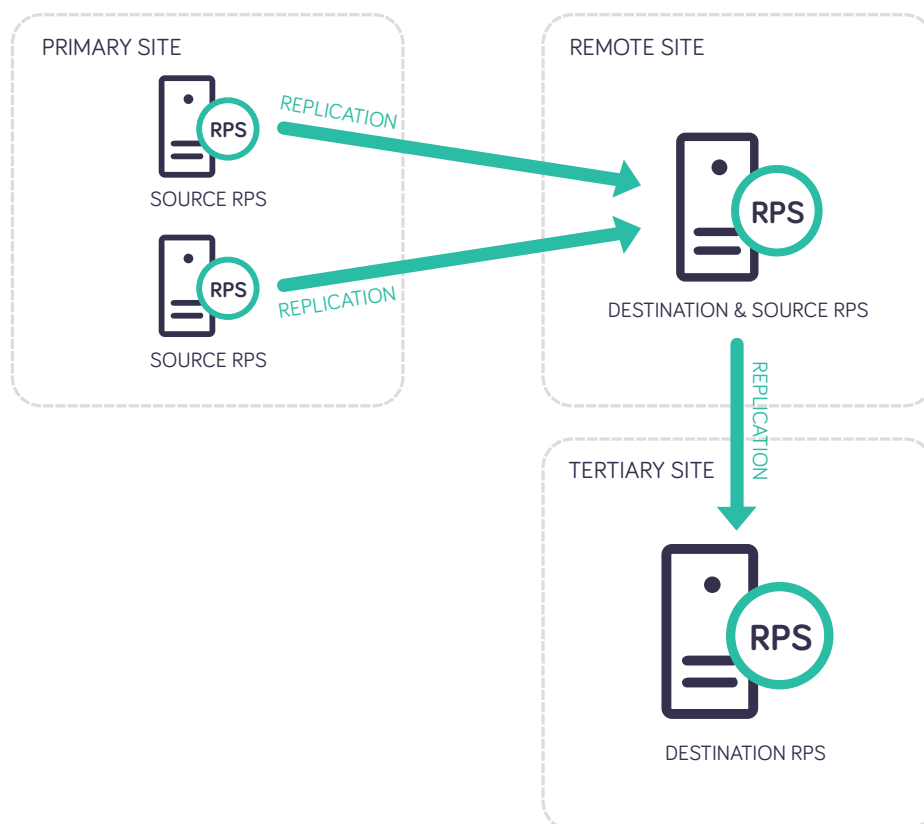


2. True Global Deduplication Proven Built-in Replication

Arcserve UDP provides built-in, industry proven replication (Arcserve RHA) technology that is ideal for multi-site environments that require disaster recovery and/or high availability. In addition, the solution includes built-in WAN optimization and bandwidth throttling capabilities, which enables end users to control network bandwidth usage and costs.

Key replication features include:

- Proven block-based RPS to RPS replication for Windows and Linux systems
- Unidirectional communication via HTTP tunneling to remove firewall and NAT configuration issues
- Offline synchronization and automated, link-failure resistant resynchronization
- One-to-many and many-to-one replication capability
- Replication task verification upon completion
- Concurrent job and multi-stream replication
- Compression and encryption





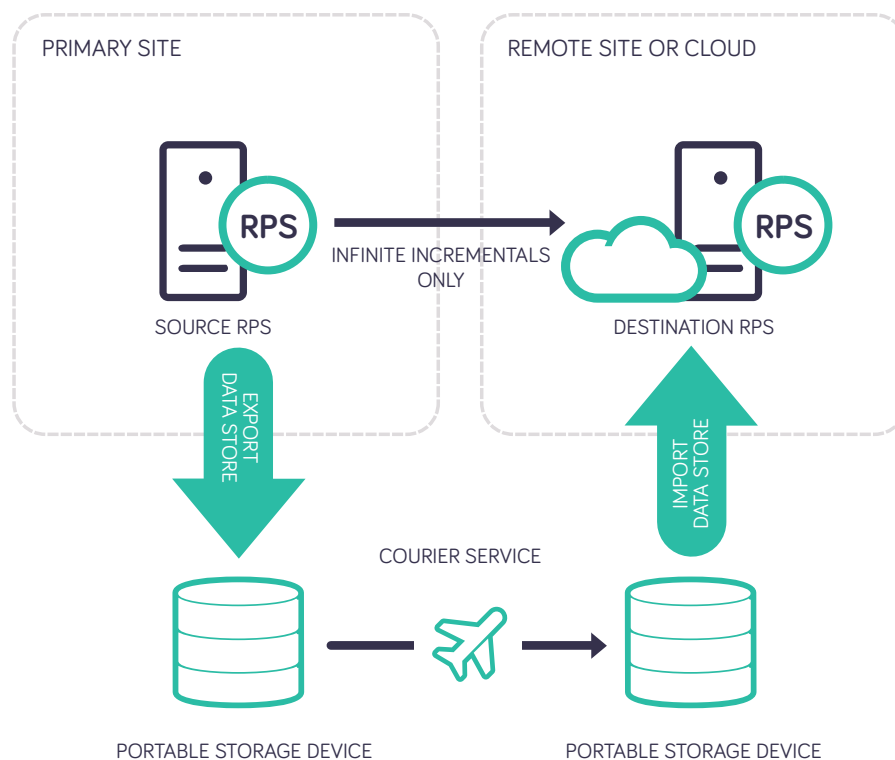
3. RPS Jumpstart or “Offline” Synchronization

This capability enables users to save their RPS datastores to a portable disk unit (like a small NAS for example) to seed a remote site. This can save significant bandwidth, time and cost to get a remote RPS server synchronized. In essence, this offline synchronization process accelerates the deployment of Recovery Point Servers and helps to optimize (time consuming and costly) data transfers.

Offline synchronization is ideal for environments with limited bandwidth or charge-by-the-usage connections and is also perfect for service providers who will use Arcserve UDP as part of their offering.

One additional benefit of offline synchronization is that your data loss exposure can also be mitigated. Instead of waiting for a full synchronization to happen over the network, which can take many days in the case of larger datastores, offline synchronization allows you to “catch up” after the copy to the remote server is complete. If the physical transfer of data with a portable disk device takes one day, you will only have one day of updates to catch up, and reduced exposure should something happen to your primary site. In addition, the solution supports public cloud platforms, such as Amazon, Azure, Rackspace and others who offer seeding services

RPS Jumpstart - “Data Seeding”





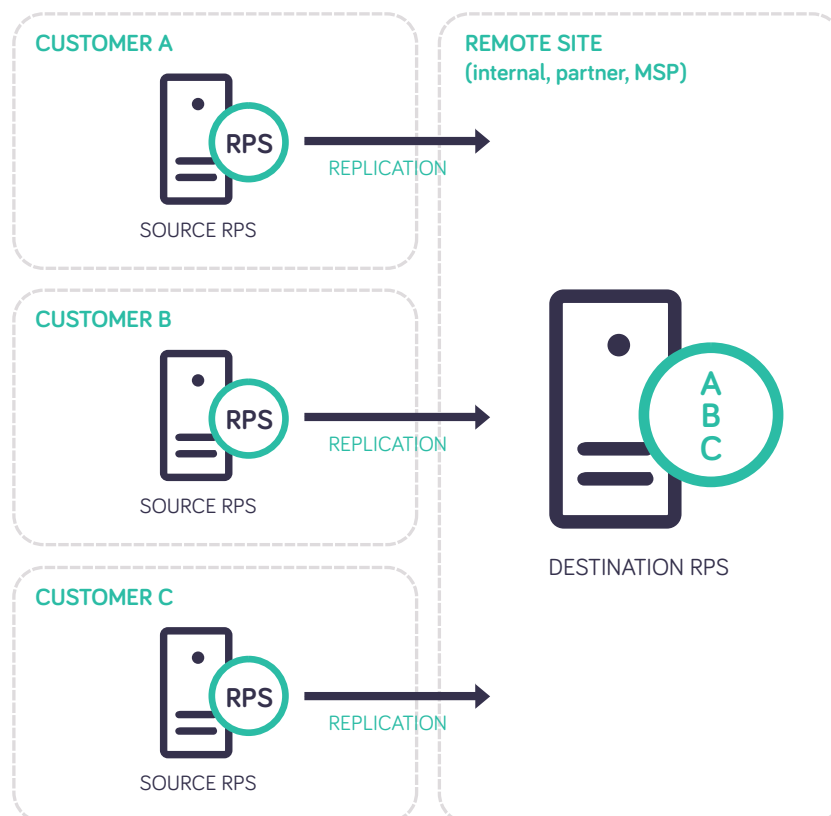
4. Multi-Tenant Storage

This capability offers the ability to logically segregate user data within the RPS. Data is stored on a local recovery point server and then replicated centrally (in a many-to-one fashion) using global deduplication to a centralized RPS server.

That data is isolated logically on the server, both by the manner of encryption (256-bit AES encryption is supported) and the security credentials that are required for administrators to access the customers' data. Access by customer RPS name can be used leveraging a separate folder structure.

In addition, global deduplication works across all tenant storage, to improve operational efficiency and reduce storage costs further. Because of this, Arcserve UDP is an ideal solution for MSPs, as well as organizations and/or departments that share IT services.

Multi-Tenant Storage



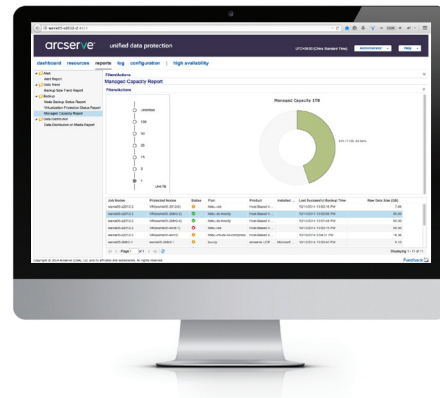


5. Additional Key Capabilities

The RPS server also uses technologies such as compression and AES encryption as noted above. It should also be mentioned that the RPS server offloads resource-intensive tasks from the production systems, such as backup merge/purge processes and cataloging operations.

It comes with a full set of open APIs and also includes a managed capacity report to simplify licensing management.

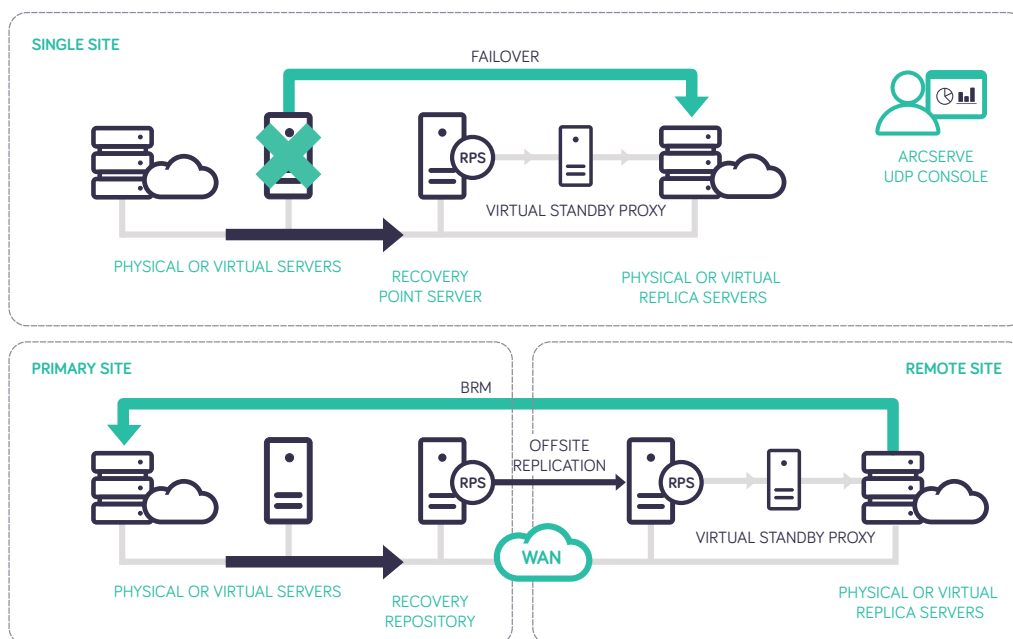
Managed Capacity Report



Virtual Standby Proxy

This architectural element provides periodic, image-based system, application and data protection for Windows Servers and VMs, and the ability to failover to a live VM of that backup image. Users can replicate to remote locations (remote office, DR site, MSP and Cloud) and run recovery point conversion into VHD or VMDK formats, on the LAN or through a WAN depending on the chosen topology.

Local & Remote Virtual Standby with RPS





Faster, More Flexible Recovery Options

Arcserve UDP delivers more flexible recovery options with enterprise storage array snapshot support to enable high performance, and low-impact snapshots of virtual and physical production servers.

Instant VM recovery supports fast recovery and power on of Windows and Linux virtual machines directly from UDP recovery points. Instant VM supports recovery from agent-based and agent-less backup for VMware, Hyper-V, virtual-to-virtual, and virtual-to-physical restores.

Instant Bare Metal Restore (BMR) enables local and remote bare metal recovery of Linux physical machines from within the UDP Console. This feature is ideal for MSPs and remote sites, as it eliminates the need for physical access to the protected system or to boot into a local BMR environment.

Focus on Data Protection Plans

One unique capability enabled by Arcserve UDP's unified management console is the creation of data protection plans. When combined, these plans form the basis of the organization's data protection strategy.

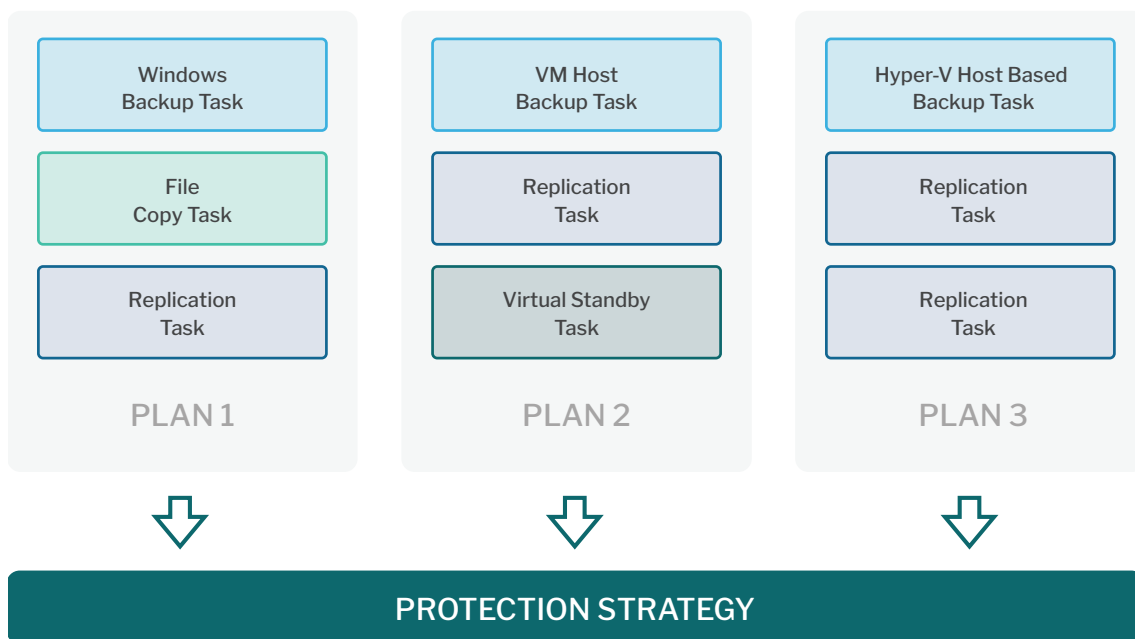
Traditional data protection solutions force administrators to protect highly complex environments by defining tasks using disjointed and ever-growing lists of backup, replication, and failover policies, often across multiple products or systems.

In contrast, Arcserve UDP data protection plans consist of a single management object that contains within it all of the data management actions and tasks needed to protect devices. These plans orchestrate a workflow of tasks that are user-customizable and can be applied to one or many nodes. This workflow provides the ability to generate a full data protection lifecycle, one that can combine many advanced features such as offsite replication, high availability and many more!

In essence, this allows users to create service level oriented plans or specific protection plans for nodes that share the same characteristics. With Arcserve data protection plans, users can achieve the level of RTO/RPO granularity they need for each node, quickly and easily. This is a unique capability, which sets Arcserve UDP apart from any other data protection solution in the market. These plans are akin to a SLA "dial" in many ways, where the user simply turns the dial to the level of RPO/RTO they require and the solution selects the most appropriate technology to deliver the desired result.



Protection Plan Examples

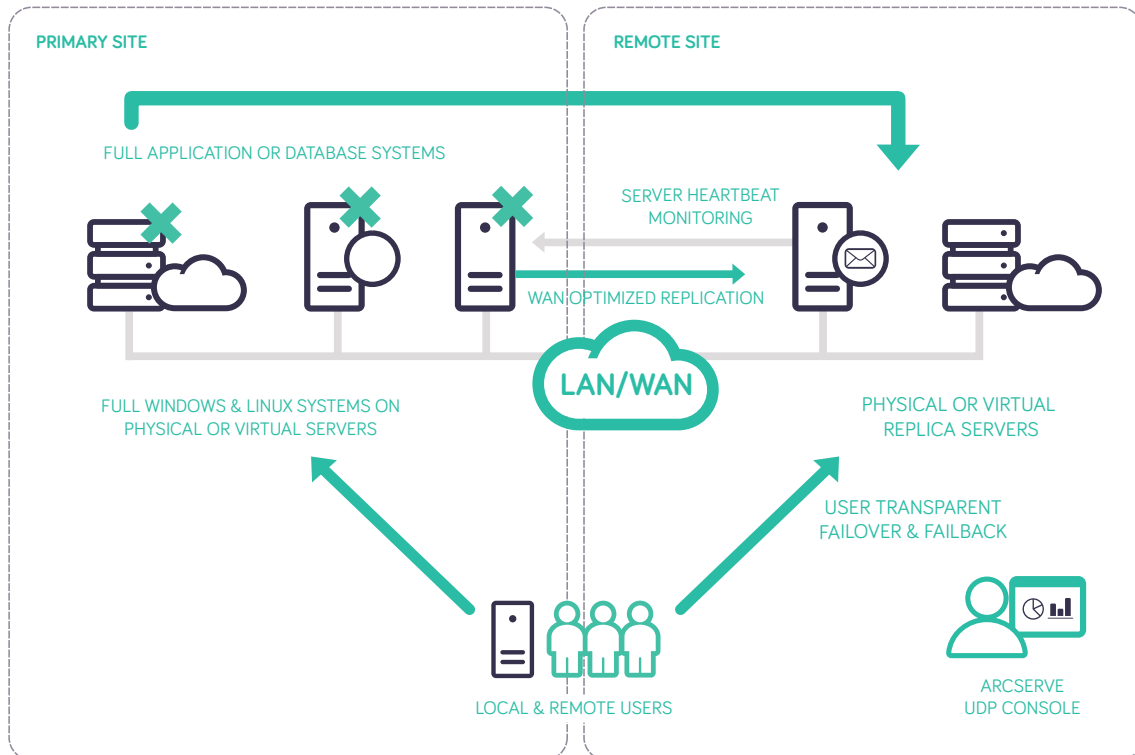


With Arcserve UDP, users can also leverage advanced high availability capabilities for enhanced RPO and RTO. Failover and failback operations are automated and simple to configure. This push-button, near instant, recovery across virtual and physical systems includes the following characteristics:

- Integrated with Arcserve UDP Console
- Protects Windows and Linux Full Systems (OS, Apps, Data)
- Continuous full system replication enables near-instant recovery of entire system including business applications, files and data
- Automated DR testing and/or push button fail-over, fail-back
- WAN optimized replication and offline sync, for remote sites
- Supports P2P, P2V, V2V, V2P
- Supports DAS, SAN, NAS and cloud storage



Full System High Availability/Failover



Tape/Archive Module

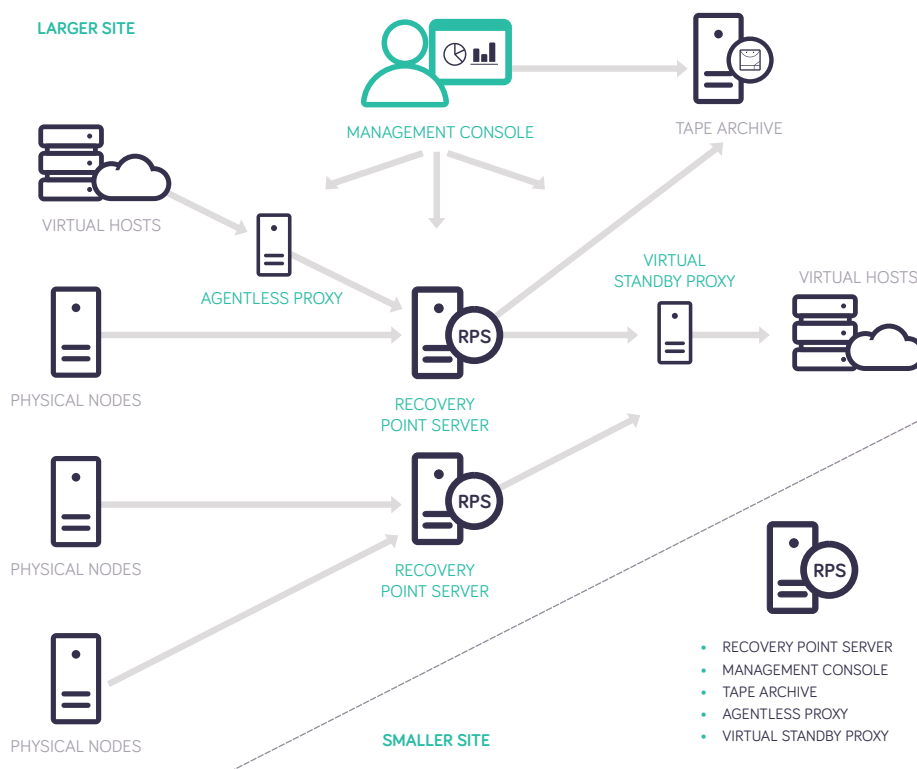
This element provides tape capabilities to Arcserve UDP, including the ability to perform a tape backup of Recovery Point Server deduplication datastores. In addition, it allows users to easily restore and “re-hydrate” deduplicated backups directly from tape and one step file level restore. In addition, tape remains a preferred medium in many environments for long term retention of data for archive and/or compliance purposes.



Scalability

For larger organizations looking to scale out Arcserve UDP, individual elements or “roles” can be installed on separate systems. In smaller organizations or remote offices, solution elements or “roles” can be combined on a single system to reduce cost.

Scalability Topology



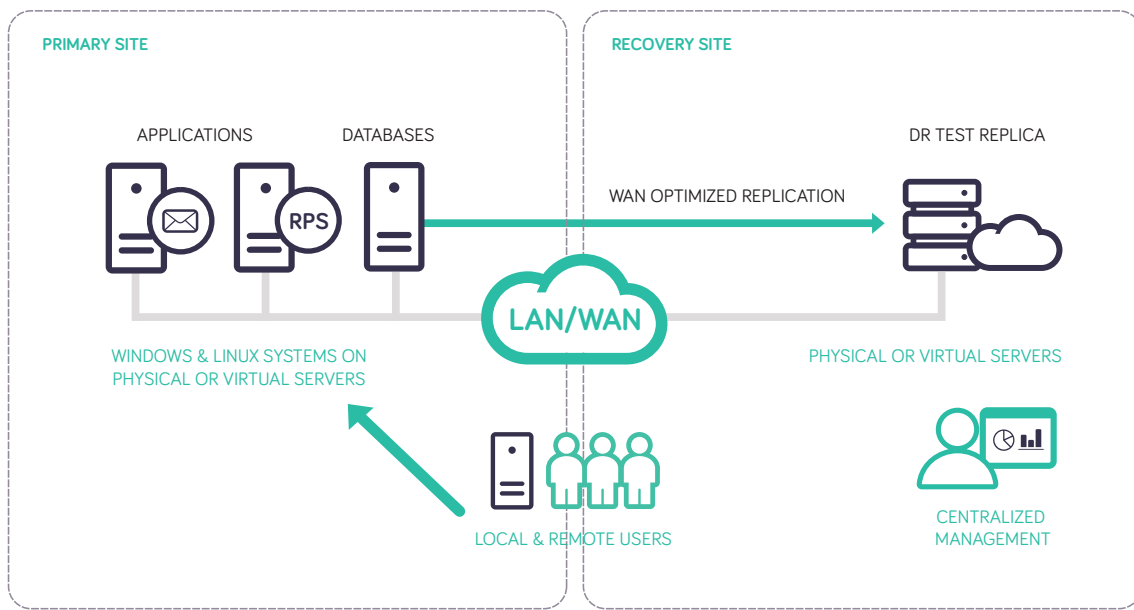
Focus on Assured Recovery

Arcserve UDP enables the automated disaster recovery testing of business-critical systems, applications and data, without business downtime or impact to production systems.

- Enables automated disaster recovery testing of business-critical systems, applications and data on a separate, replica server, which can be located at a remote DR site, or hosting provider
- Non-disruptive DR testing process avoids business downtime and impact to production systems
- Recovery testing can be fully automated, or performed on a scheduled basis, as needed
- Assured Recovery reporting provides evidence of system recoverability for compliance auditors
- RPO and RTO reports built-in

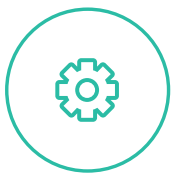


Assured Recovery



Features Details

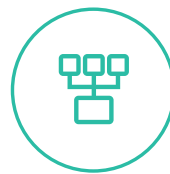
Arcserve UDP provides Assured Recovery capabilities with enterprise-level features yet is easy to deploy. The solution is designed to optimize physical and virtual protection, and is geared towards data and system protection and recovery services delivery.



ENTERPRISE-CLASS
CAPABILITIES
& PERFORMANCE



OPTIMIZED FOR
VIRTUAL PROTECTION



EASE OF USE



SERVICES-ORIENTED
PLATFORM



New in UDP 6.5

Arcserve UDP 6.5: Simply More: More innovation, more cloud, more control

Arcserve delivers the only data protection solution suite to deliver enterprise-grade capabilities without the complexity often associated with enterprise solutions.

The newest version of Arcserve UDP further improves our channel partners and customers' ability to deliver higher operational efficiencies as they improve their RPOs and RTOs with a combination of innovative new features and enhancements. Users leverage expanded data protection capabilities for on-premise and cloud environments, including further integration into public cloud infrastructures for disaster recovery (DR). Reporting and orchestration is effortless with new and enhanced capabilities that enable more control over data protection processes. Arcserve offers several deployment modalities: software, appliances (Arcserve 8000 Appliance Series), and the Arcserve Cloud.

Arcserve Cloud

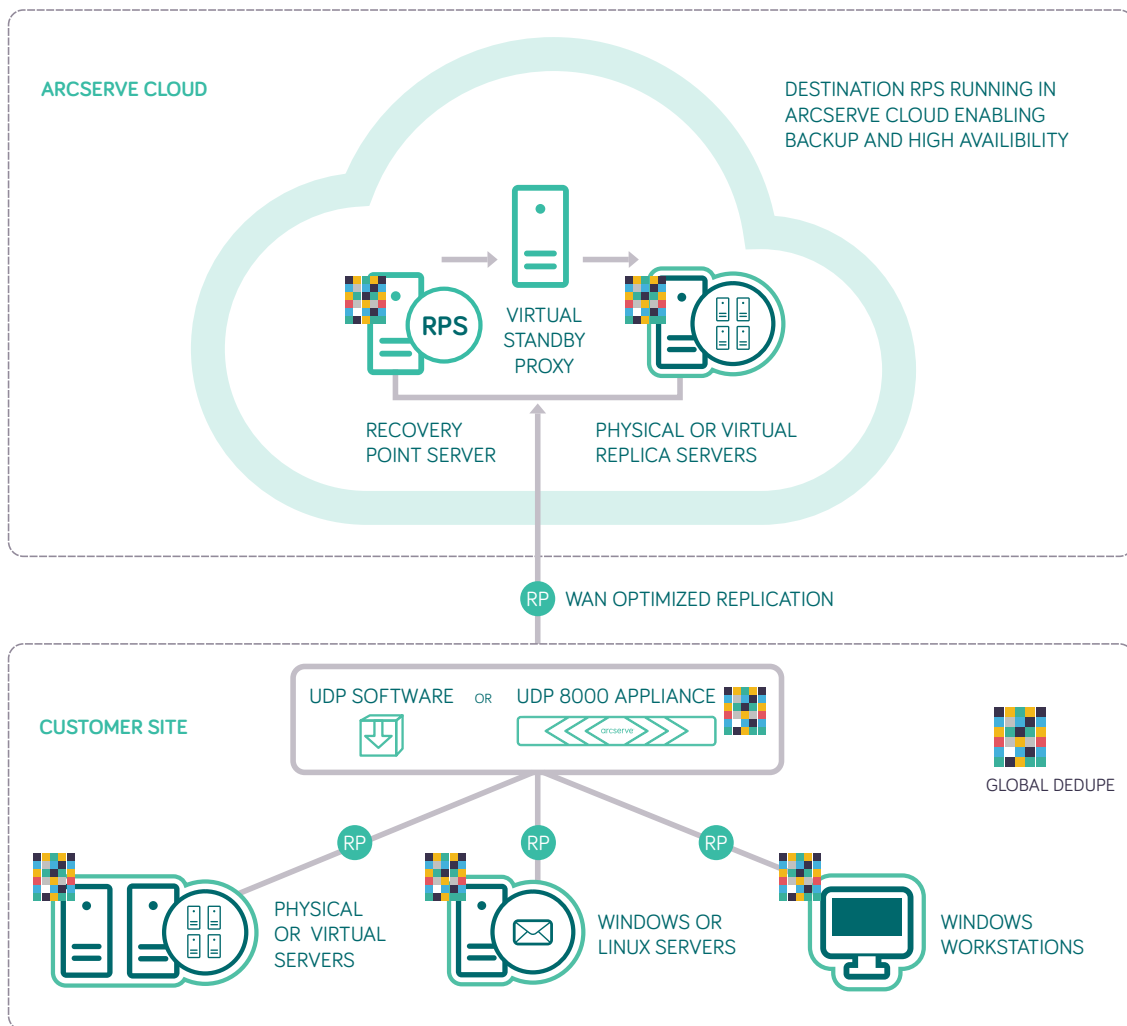
Cloud Storage and Disaster Recovery Service Made Simple

The Arcserve Cloud provides a cloud storage and Disaster Recovery Service (DRaaS) option for backup, disaster recovery and long-term retention. The Arcserve Cloud ensures that your precious systems and data are always fully protected and available offsite so that your business can remain "always on." Unlike managing your own secondary site, the Arcserve Cloud eliminates the cost of an offsite location, IT infrastructure and personnel. It offers backup copy and remote virtual standby options that make it simple and affordable to protect your systems and data, in the event of disaster. Simply connect your Arcserve Unified Data Protection (UDP) platform to the Arcserve Cloud and go!

- Provides secure offsite cloud backup storage, as an alternative to managing your own secondary site and/or tape replicas
- Remote virtual standby enables replica IT systems to be stood up in the cloud, quickly and easily
- Reduces up-front investment and total cost of ownership
- Global, source-side deduplication and WAN optimized replication, for highly efficient use of backup storage and available WAN bandwidth
- Jumpstart offline synchronization accelerates replication of backups and VM's into the Cloud
- Highly secure AES-256 encryption of data in-flight and at-rest
- Extremely efficient, long-term backup retention for internal policies and regulatory compliance
- Rapid deployment via a jumpstart offline synchronization service
- Ease of management with 24 x 7 x 365 support
- Infinite Incremental Backups (I2 Technology™)



Cloud Storage and DRaaS Made Simple





Key Features Highlights

- Unified management console
- Agentless backup for VMware and Hyper-V (Windows and Linux VMs)
- Support for physical machines (Windows and Linux)
- Integrated replication and high availability option
- Local and remote virtual standby / Instant VM recovery
- Tape archive
- Reboot-less agent deployment
- Instant Bare Metal Restore
- Role-based administration
- Command Line Interface (CLI)
- File level recovery for Windows and Linux VMs
- Enterprise storage array snapshot support
- Unified Tape Management module
- Unified product installer
- True global deduplication
- Block level infinite incremental (I2 Technology)™ backup
- Multi-Site protection enhancements (Ideal for Branch Offices and MSPs)
- Granular Recovery for Exchange (Emails from each VM), SQL, Files and Folders
- Multiple ways to restore data and systems
- Bare Metal Restore to original and dissimilar hardware
- Desktop/Laptop protection
- Auto update
- Installable software, locally or in the cloud
- Comprehensive set of APIs for third-party integration
- Microsoft Office 365 support
- Advanced DRaaS capabilities in Public Cloud
- Storage array snapshot integration

Ease of Use

SIMPLE ALL-IN-ONE CENTRAL MANAGEMENT UI

Improves Operational Efficiency with one unified management console for all key data protection functions

- Many to one central management to manage the full protection lifecycle
- Manage all your servers, desktops and laptops from one single UI
- New redesigned User Interface
- Intuitive workflow-based protection strategies, plans and tasks
- Web-based including web services
- Status updates
- Access from any browser including mobile devices
- Designed to extend with third-party integrations
- Unified tape management module
- Unified product installer

WIZARDS

Simplify the orchestration of previously complex and disjointed data protection tasks

Maintain granular control of your data protection strategy through advanced settings

- Simple and intuitive setup process; “getting started” wizard
- Discovery via Active Directory and easy nodes addition
- Add a Recovery Point Server and Data Store(s)
- Create your first protection “plan” to enable the right level of RTO/RPO
- Fine-tune capabilities with advanced settings
- Reduced need for extensive product training
- First backup within minutes of installation



Ease of Use

INTEGRATED FUNCTIONS

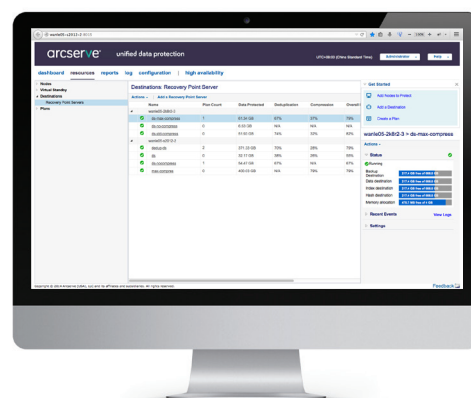
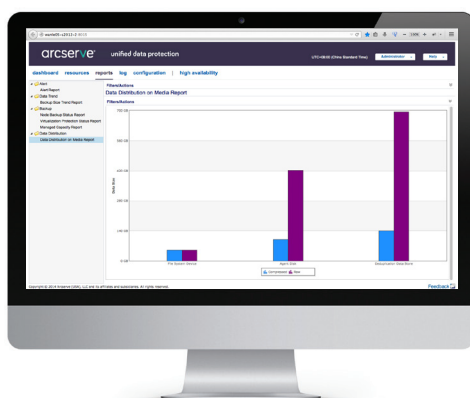
Unified data protection solution that delivers enhanced abilities to set, control, measure and improve RPO and RTO for hybrid environments

- Central management and reporting
- RPO and RTO Monitoring Report
- “Getting started” wizard
- Windows and Linux image-based backup and recovery
- Agentless backup and recovery of all VMs in VMware or Hyper-V systems
- Virtual standby
- On or offsite replication of data stores
- Continuous full system replication
- Full system high availability or failover for Windows and Linux
- Detailed logs
- Tape migration
- File level recovery for Windows and Linux VMs
- Agent backup of Windows and Linux clients running on physical/virtual
- Instant VM recovery
- Instant Bare Metal Restore
- Exchange GRT

DATA PROTECTION PLANS

Turn the “SLA” dial to the level of RPO/RTO you require and the solution selects the most appropriate technology to deliver the desired result.

- Full data protection lifecycle
- Customized protection for user’s unique environment
- Individualized level of RTO/RPO for each node
- Offsite protection
- Workflow engine to allow integration with future modules and third-parties Includes support for hardware snapshots and cloud destinations





Enterprise Class Capability and Performance

TRUE GLOBAL, DEDUPLICATION

Reduces backup windows

Reduces bandwidth consumption

Reduces storage costs

... across your whole infrastructure

- Improved storage requirements, bandwidth and accelerated protection and recovery across sites
- Data is deduplicated before being transferred to the target RPS, which improves backup performance and reduces bandwidth requirements.
- Global data deduplication across nodes, jobs and across sites
- In place re-hydration of data for fast granular restore (even tape)
- Replication designed for deduplication
- Option to use inexpensive SSD to hold hash database, improve speeds and reduce cost
- Enhanced Infinite Incrementals speed and merge

INFINITE INCREMENTAL PERFORMANCE

Uses less disk space and network bandwidth for your backups

- Block-level design uses less disk space and network bandwidth
- Optimal for cloud or remote site protection
- New I2 merge performance improvements in Arcserve UDP
- RPS merge job will be very quick as merging data on RPS data store only needs to change links in index file when duplicate recovery point data exists
- Memory mode to SSD mode switching for RPS data stores: Enables Recovery Point Servers to be scaled from small to large, by enabling the RPS configuration to be switched from memory mode to an SSD drive “on-the-fly”

BUILT IN REPLICATION FROM RPS to RPS

Improves the resilience of your data protection infrastructure

- Proven block-based RPS to RPS Replication for Windows and Linux systems
- Unidirectional communication via HTTP tunneling with no firewall hassles
- Restart of failed jobs at last block
- Advanced scheduling and retention
- Data can be replicated to multiple RPS servers
- Replication task verification upon completion
- High concurrent job support
- Support of compressed, encrypted and de-duplicated backups
- Recovery Point Copy to Cloud is also available (with or without running RPS)

ACCELERATE OFFSITE PROTECTIONS

Jumpstarts data seeding of your recovery or remote site and lower network costs

- Off-line sync to accelerate deployment of Recovery Point Servers and improve data transfers
- Ideal for environments with limited bandwidth or charge-by-the-usage connections
- Reduced exposure when protecting data offsite
- Support for public clouds Amazon, Azure, Rackspace and others who offer seeding services
- Can eliminate the need to use tape

SCALE

Grow as you go without headache

SEPARATE ELEMENTS ON TO DIFFERENT HOSTS

For larger organizations looking to scale out Arcserve UDP, individual elements or roles can be installed individually to enable optimal performance.

SHARE ELEMENTS ON SINGLE HOST

For smaller organizations or remote offices solution elements or roles can be combined on a single host or node to reduce cost and complexity



Enterprise Class Capability and Performance

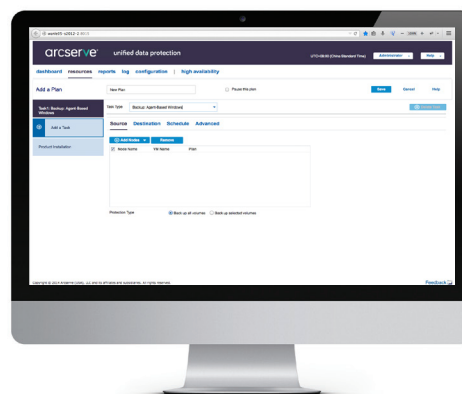
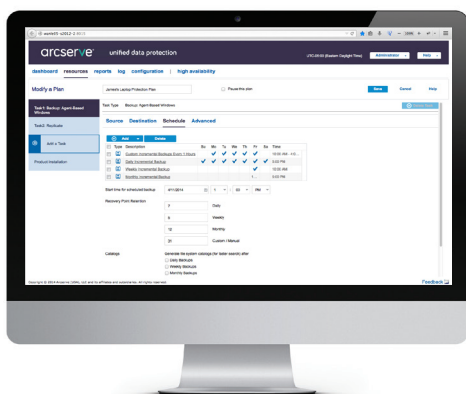
ADVANCED SCHEDULING AND RETENTION

Puts you in granular control of your data protection strategy and SLAs

- Advanced scheduling, retention and throttling control
- Disable / pause backup schedule
- Define backup time, throttling and merge tasks by day of the week
- Create detail retention schedules for daily, weekly and monthly backups
- Retention plans unique to each RPS
- Tape migration

OTHER FEATURES

- Agent-free backup of Linux physical clients and agent-less backup of Linux virtual clients
- Bare Metal Restore to original or dissimilar hardware
- Catalog-less backup
- Role-based administration
- Command Line Interface (CLI)
- Reboot-less agent deployment
- Reduced load on source node: Offload incremental merging to RPS; offload backup catalog generation to RPS
- Storage Management: Pruning recovery points automatically; sending alerts when resources are low
- Tape backup of RPS store: Rehydrate image-based backups directly onto tape to perform restore
- UNC paths/CIFS protection



Optimized for Virtual and Physical Protection

LOCAL AND VIRTUAL REMOTE STANDBY

Enhances your RPO and RTO locally or over distance

- Periodic, image-based system, application and data protection for Windows Servers and VMs
- Replication to remote location (remote office, DR site, MSP and Cloud)
- Recovery point conversion into VHD or VMDK formats at the remote site to a virtual server
- Register with hypervisor
- Server Heartbeat Monitoring
- Manual failover to remote resources



Optimized for Virtual and Physical Protection

FASTER, MORE FLEXIBLE RECOVERY OPTIONS

Speed recovery of Windows and Linux VMs

- Enterprise storage array snapshot support to enable high performance, and low-impact snapshots of virtual and physical production servers
- Instant VM recovery supports fast recovery and power on of Windows and Linux virtual machines directly from UDP recovery points
- Instant VM supports recovery from agent-based and agent-less backup for both VMware and Hyper-V, and virtual-to-virtual and virtual-to-physical restores
- Instant BMR enables local and remote bare metal recovery of Linux physical machines from within the UDP Console

FAST, SIMPLE, AGENTLESS BACKUP FOR VMWARE AND HYPER-V HOST ENVIRONMENTS

Simplify the protection of your hypervisor environment and lower costs

- Single-pass backup of all VMs without the need to install software agents on each VM
- Auto-discovery of VMs on target hypervisor
- Integrated with VMware vStorage APIs
- Only backs up changed blocks
- Application consistent (Exchange, SQL etc.) and transaction-log purge
- Easy recovery of individual files and folders from within each VM
- Centralized node, group and plan management from UDP Console

FULL SYSTEM HA

Push button near instant recovery across virtual and physical systems

- Integrated with Arcserve UDP Console
- Protects Windows and Linux Full Systems (OS, Apps, Data)
- Continuous full system replication enables near-instant recovery of entire system including business applications, files and data
- Automated DR testing and/or push button fail-over, fail-back
- WAN optimized replication and offline sync, for remote sites
- Supports P2P, P2V, V2V, V2P
- Supports DAS, SAN, NAS and cloud storage

ASSURED RECOVERY

From Objectives to Assurance with fully automated testing and reporting

- Enables automated disaster recovery testing of business critical systems, applications and data, on a separate, replica server
- Non-disruptive process avoids business downtime and impact to production systems
- Recovery testing can be fully automated, or performed on a scheduled basis, as needed
- Assured Recovery reporting provides evidence of system recoverability for compliance auditors

OTHER FEATURES

- Protection of non-Windows VMs
- Backup of powered off VMs / Single pass backup with UAC enabled vDS VLAN
- vDS VLAN
- Enterprise storage array snapshot support
- Recovery Point Migration: Enables Arcserve D2D r16.5 recovery points to be migrated to RPS de-duplicated data stores, which dramatically reduces backup storage capacity requirements and frees up space



Service Oriented Architecture

OPEN AND DOCUMENTED API ACCESS

Simplifies integration in applications and frameworks

- Web-Services API
- Exposed Database Log Schema
- Straightforward third party integration capabilities
- Extends Arcserve UDP capabilities
- Command Line Interface (CLI)
- Can be integrated with other in-house applications, frameworks or platforms
- Ideal for Remote Monitoring and Management integrations

RPS Jumpstart

Populates offsite datastores and lowers costs

- Offline Sync to accelerate deployment of Recovery Point Servers and improve data transfers
- Ideal for environments with limited bandwidth or charge-by-the-usage connections
- Reduced exposure when protecting data offsite
- Support of public clouds Amazon, Azure, Rackspace and others who offer seeding services
- Can eliminate the need to use tape

SECURE TENANT STORAGE

Securely optimizes data protection services

- Ideal solution when all tenant protection is managed by a single MSP partner
- Deduplication optimization across tenants
- Role-based administration
- Separate folder structure access by customer RPS name
- Added data security via 256-bit AES Encryption
- Reduced storage costs for MSPs

SERVICE-LEVEL REPORTING

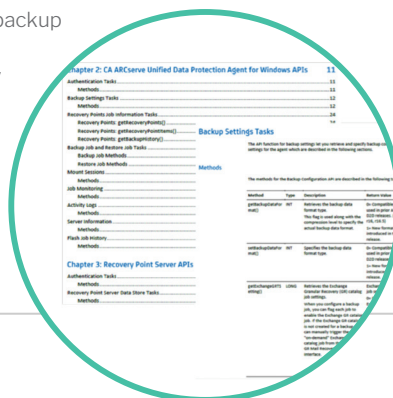
Puts you in charge to manage and control SLAs for your internal or external customers

- Total storage consumption reports across Arcserve Solutions (ASBU and UDP) site wide
- Detailed status reports on physical and virtual nodes
- Detailed Logs
- Schedules the creation and email of reports in multiple formats(PDF, CSV, HTML)
- RPO and RTO reports

ARCserve CLOUD / CLOUD STORAGE AND DRaaS MADE SIMPLE

For UDP platform customers

- Provides secure offsite cloud backup storage, as an alternative to managing your own secondary site and/or tape replicas.
- Remote virtual standby enables replica IT systems to be stood up in the cloud, quickly and easily
- Reduces up-front investment and total cost of ownership





Arcserve UDP 8000 Appliance Series

For organizations that require all-in-one backup and recovery, the Arcserve® Unified Data Protection (UDP) Appliance Series is the first complete, cost-effective solution that enables IT professionals to get up and running in just 15 minutes. We take our award-winning software and package it neatly on an enterprise-grade appliance to deliver “set and forget” data protection with Assured Recovery™.



Architected with cloud-native capabilities, its unmatched ease of deployment and usability combine with a broad set of robust features, such as: global source-based deduplication, multi-site replication, tape support and automated data recovery capabilities.

Arcserve UDP Appliances are ideal “set and forget” systems for branch and decentralized offices or as the primary backup, deduplication, disaster recovery and cloud gateway appliance for small and midsize organizations.

Key Features

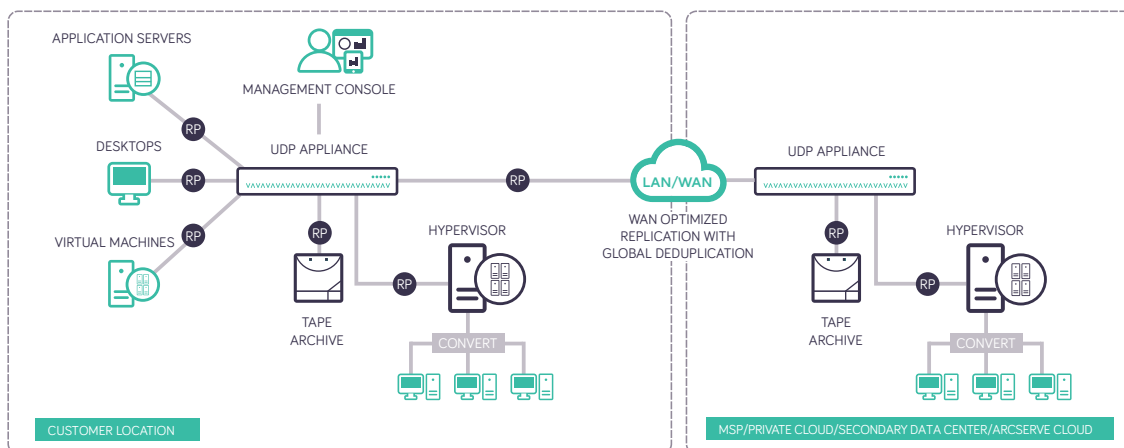
- Second Generation UDP Appliances are designed with enterprise-grade capabilities and componentry for enhanced resiliency and optimal performance
- Modular portfolio offers 16 storage capacities to address data growth challenges and enable business and/or architectural expansion
- Future-proofed with field expansion service*
- Available in backup capacities to protect source data ranging from a few TBs to 240TBs
- Delivers all the advanced features of Arcserve UDP software in a simple, yet powerful appliance option
- Interoperable with existing UDP software deployments
- Arcserve Cloud option provides a complete, offsite backup and disaster recovery solution
- Ideal for businesses that require a “set it and forget it” backup and recovery solution
- Simple, wizard-driven setup for unparalleled ease of deployment and usability
- Built-in SSD drive for maximum deduplication performance

Multiple Deployment Use Cases

- Single site protection for physical or virtual systems
- Primary site protection combined with copy to a cloud or Managed Service Provider
- Cross-site protection between two sites
- A central appliance site with multiple branch offices
- Hybrid deployment with multiple modalities: on-premise local, remote and cloud combined



Arcserve UDP 8000 Typical Deployment



Summary of Key Differentiating Technologies

Arcserve Unified Data Protection combines industry-proven image backup, tape, replication, high availability and true global deduplication technologies within one, simple, solution. Arcserve UDP's next generation architecture delivers comprehensive Assured Recovery capabilities with unmatched ease of use. Innovative technologies include a new unified, scale-out architecture simple task-based data protection plans, Assured Recovery capabilities and true global deduplication. The table below summarizes the key technologies and capabilities that set Arcserve UDP apart from its competition:

Unified Solution with Broad Features	Image backup, high availability, tape, cloud; virtual, physical, global deduplication One UI, all core data protection technologies unified under one solution
Ease of Use	Out of the box enterprise class protection that leverages wizards (improves end-to-end customer experience) Protection Plans Purchasing, deploying, licensing, configuring
Assured Recovery™ Recovery Point and Time Assurance	Recovery Time and Recovery Point Assurance Assured Recovery with full system high availability Automated Virtual Standby Reporting and logs
Service Provider Friendly	MSP Capabilities Document API and Log Schema MSP Partner Program



Conclusion

Arcserve UDP brings to the market the first easy-to-use and deploy unified data protection, recovery and availability solution, on-premise, off-premise or in the cloud. With Arcserve UDP organizations can scale and add features as their requirements or IT environment evolves. The ease of use and deployment of the solution, combined with enterprise-level capabilities, makes advanced data protection, recovery and availability a much simpler objective to achieve than in the past, relieving them of the complexity created by multiple point solutions. This places you in the driver's seat, to truly manage, measure, and control RPO and RTOs. The next generation unified architecture of Arcserve UDP makes it easy for end-users to start small and add capabilities beyond traditional backup as they grow: replication, high availability or advanced virtualization protection and recovery support. As many IT professionals are constantly reminded, it's all about delivering on RPO and RTO... what about using a unified architecture with Assured Recovery capabilities to do so?



New **Arcserve UDP** is a next-generation unified architecture data protection solution. It means now you can simply forget about physical backup and virtual backup and high availability and Exchange backup and Windows backup and Linux backup and cloud-based backup and NAS/NDMP backup and disk-based backup and Unix backup and tape backup (breathe) and Citrix Xen backup and Sharepoint backup and SQL backup and Oracle backup and workstation & laptop backup and bare metal recovery and deduplication and file archiving point solutions and just think about how great life can be when data protection **simply works**.

For more information on Arcserve, please visit arcserve.com

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