

Backup and Recovery Complexity

Is Your Business Doomed by Complexity?



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It's hard to imagine a world without the simplicity of the iPad. But just a few short years ago, the clocks on our VCRs blinked the unset time, reminding all of us of the encroaching complexity of modern technology in our homes and lives. The landscape has shifted radically and quickly, and we have changed with it. Since we're living in this landscape, it may seem as though we've collectively mastered the technology game, and that we just generally understand how to produce drop-dead simple products that tame the chaos of technological advancement.

As the market demands products that are simple to understand, robust in their technical capabilities, and most importantly, delightful to engage with, existing legacy products don't deliver. And with expectations relentlessly rising, becoming overwhelmed with the complexity of feature matrices and specifications is easy. In this increasingly complicated and pressurized world, it's hard enough delivering a useful product at all, much less one that is easy to use, technologically advanced, and that users really love.

A New Approach

The discipline of human-centered User Experience (UX) design has risen as the antidote to complex, hard-to-use technology. The goal of UX design is to provide user-centric, task-based interfaces, such as simple dashboards, which significantly reduces management overhead while providing what the user needs to easily perform their required work. The challenge today's vendors face is that UX is not about appealing industrial design, multi-touch processes, or fancy interfaces. "It is about transcending the material. It is about creating an experience through a device", states Marc Hassenzahl in his book on User Experience and Experience Design.

Three clicks instead of ten. Two steps instead of five. White space. Intuitive icons. Drag and drop. But as consumer UX underwent a renaissance over the last decade, enterprise software (including backup and recovery) stagnated with a design sensibility from the dial-up era.

Usability—much less elegance and beauty—was never a priority for backup and recovery software. All that mattered was that large and complex applications, usually diverse independent applications from multiple vendors, worked. What's the point of tweaking, integrating, and simplifying when providing improved functionality is challenging enough, and every solution includes similarly frustrating user interfaces?

The point is meeting the needs of users. Quality time versus endless clicking. It's the difference between admiring a clean, compelling design and actually using it to get your job done. Rightly, users tend not be impressed with a design that looks good if they still have to click 12 times to complete a simple task. So, while a User Interface (UI) addresses how a product looks or how appealing the interface is, UX is about how the solution functions and how the user feels when using the solution. In short, UI is about the look, but UX is about functionality and satisfaction.

However, UX is about more than making user interfaces sexier, easier to use, more comprehensive or making IT users happier. It is also about reducing operational costs and enabling IT users to work more efficiently.

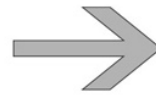
Examples of UX-related cost reductions, include:

- Reduced correction costs
Simpler screens result in fewer input errors and ultimately in increased data quality, reducing operational and management overhead.

↓ Reduced correction costs

↓ Reduced training costs

↓ Reduced support costs



How Effective UX Reduces Business Costs

- Reduced training costs
Simpler screens are easier to use, and as a result, training costs can be significantly reduced.
- Reduced support costs
Simpler and tailored screens cause less user-driven support messages. Built-in community forums offer self-service, providing direct access to peers and vendor support without ever having to exit the dashboard.

Why is Usability Important?

From the user's perspective, usability is important because it can be the difference between performing a task accurately and completely, or not, and the difference between enjoying the process or being frustrated. From a management point of view, software with poor usability can reduce the productivity of the IT staff to a level of performance worse than not having the solution. In all cases, lack of usability can cost time and effort and can greatly determine the success or failure of business continuity for the organization.

The IT user experience of backup and recovery solutions is not strictly features-based—it is workflow-based. IT users are scheduling, adding instances, monitoring, troubleshooting, replicating, coordinating archive copies, and creating and monitoring DR policies and processes for thousands of machines, instances, and applications. Their activities are action-oriented. They are less concerned with the behind-the-scenes functionality, and more concerned with whether or not the backup and recovery solution is helping them be more productive in achieving their main goal—protecting corporate data and insuring business continuity in the event of an outage.

Often, the feature-based UI experiences that IT departments have in place today are not intuitive enough to create the IT workflows required to ensure business continuity, compliance, and assured recovery. This causes continued frustration for the end user, and compels them work extended hours and weekends, or be at the beck and

call of their organization to resolve ongoing and typically troublesome issues.

A compelling value of Unitrends backup version 9.0 is not simply an incremental improvement in usability or good looking screens. The UX value of Unitrends backup 9.0 is based on an in-depth understanding of the cloud empowered backup and recovery processes and 25 years of customer interaction and experience. This knowledge translated into backup and archive data being presented in ways that quickly support easy exploration, decision-making, and fast action in areas of risk. Plus, the new UX provides the added benefit of freeing up IT resources previously required to monitor and manage immediate areas of risk to focus on new projects previously considered too difficult, simply because there wasn't enough manpower, finances, or time.

Quality Time

We all know the expression "quality time." We long to spend some quality time with our family and friends, immersed in a hobby or just watching a movie. The goal of simplifying the UX in Unitrends backup 9.0 is "to create quality time for people at work and in life." Our goal is to help organizations move from "time at work," which can sound like hard labor and tedious, to "quality time at work," which would be the diametrical opposite. Work is more than just completing tasks. Fraser Speirs, author of Future Shock, captures the deeper meaning of work with this definition: "Real Work is not formatting the margins, installing the printer driver, uploading the document, finishing the PowerPoint slides, running the software update, or reinstalling the OS. Real Work is teaching the child, healing the patient, selling the house, logging the road defects, fixing the car at the roadside, capturing the table's order, designing the house, etc." The goal of a simplified interface is how we contribute to the quality time of the people doing that job. The focus behind Unitrends revamped user interface is to create an

experience that creates quality time for IT users at work, so they can focus on their organization's real business—the "real work" and quality of life.

UX for Cloud Empowered Data Protection and Recovery Assurance

In an ever-growing, digitally-dependent world, information rules above all else. Effectively managing the data created, safeguarding it, locating it quickly and determining how best to exploit it is the key to business vitality. Because data is a crucial ingredient that organizations cannot do without, managing data throughout its life-cycle is a key factor to recovery, business continuity, and compliance.

The challenge is that data is generated at such a velocity that it is difficult for IT to keep pace. This puts greater pressure on IT executives to create infrastructures that are dynamic and agile. If the growth of data continues unabated, and the infrastructure has to scale, then backup and recovery management must provide a high degree of intelligence and analytics to handle the diversity of data that must be protected. Such solutions deliver a far greater level of business resiliency. The always-on nature of most organizations has stretched the boundaries of the primary data center (large and small), and put new strains on the operations layer. Businesses now expect a 24/7 IT experience, which makes IT teams susceptible to the following challenges:

- New and dynamic applications within the data center are driving data growth and making traditional, static "set it and forget it" backup and recovery approaches ineffective.
- Always-on enterprise (24X7 operations) threaten to obsolesce the concept of "backup windows" and scheduled maintenance downtimes.
- Increased adoption of cloud and virtualization is creating unintended data silos and additional IT management complexity.
- Existing "traditional" solutions are often too rigid, complex, and expensive to handle the demands of the modern data center.

Consider an organization that accumulates terabytes of data across physical and virtual servers, with multiple data stores across and an infinite number of backup copies in the cloud. An intelligent backup solution with embedded analytics and optimization features is necessary to protect, manage, and move that much data. Analytics are key to determining where problem areas are beginning to occur, what's important for local recovery, what needs to move to the cloud for recovery assurance, and how long data must be

retained to meet compliance requirements. Enter Unitrends backup 9.0.

Unitrends backup 9.0 employs the use of visualization to continuously monitor the information path between all clients and the backup target (Physical or Virtual Appliance). The new Unitrends UX also offers a process to uncover hidden patterns, unknown correlations, and other useful information about how information is protected, which culminates as better decisions for the future. It's about empowering anyone at any level where IT decisions are made with the tools to analyze backup and recovery performance, infrastructure usage trends, alerts, and visualizations.

Dashboard Overview

With data-driven decisions gradually becoming the norm in every industry, the information dashboard has an important role. With an interactive and intuitive interface and the ability to visualize data in a single screen, dashboards are becoming a critical tool in the hands of IT and ultimately the business executive.

However, in legacy UI architectures, designers have made the mistake of assuming that users of backup and recovery solutions would follow the task flows, organizational structures, and nomenclature that the UI designed imposes, forcing IT users to do unnecessary work, including:

- Puzzling through a long list of functions in drop down menus to figure out which one applies.
- Swiping through 10 screens of content to find the backup, recovery, or archive function, local or remote.
- Doing numerous searches to schedule a job across 100 of systems

Dashboards overcome this complexity by displaying all relevant information on a single screen within a user's vision span, reducing the dependence on having to remember feature/function methodologies. Instead, the necessary tools are displayed in a visual and intuitive manner on one screen. Well-designed information dashboards are critical tools in the hands of backup and recovery IT users.

Unitrends Backup 9.0 Interactive Dashboards

Unitrends backup 9.0 provides IT staff with an intuitive and interactive dashboard and hundreds of key performance indicators related to backup and recovery operations. Using this information dashboard, IT staff can immediately identify inefficiencies within the backup operations, discover unbalanced use of backup resources, and uncover failures

before they are exposed in the recovery process. The Unitrends solution eliminates the need for the IT staff to have to waste precious time on isolating data protection problems at the point when business needs are centered on recovering vital information. Instead, with Unitrends' end-to-end insight into the physical and logical data protection infrastructure, IT staff can make smarter decisions concerning how the backup and recovery process is implemented, and uncover the root causes of issues before the business has to rely on that process. Unitrends backup 9.0 includes a revamped UI and UX that significantly reduces management overhead. Users can easily perform sophisticated functions in considerably fewer steps and get a real-time view of their end-to-end infrastructure, including client, remote offices, primary data center, as well as remote off-site or cloud locations. A brief overview of the utility of the revamped Unitrends backup 9.0 UX is shown in the screenshots below, including:

- Information Dashboards—Dashboards give real-time visualization into valuable key performance and protection of the backup, including backup copy and recovery processes. Information dashboards provide visual reporting and the ability see status across an entire infrastructure, including backups, backup copies, storage utilization, and recovery, all while quickly identifying risk without having to review every job and task in detail.
- Dynamic Community interaction—Built-in community forums tiles enable self-service with direct access to peers and Unitrends Support without ever having to exit the dashboard.
- Custom Tile Interface—UI can be customized to match the specific needs of the operator and organization. Easy tools let users tailor the immediate visual details to enable decision-making and trigger appropriate actions.
- Real-time analytics—Analytics provide visual foresight into the backup, backup copy, and recovery process based on daily use, along with trending, performance, and capacity use.
- Rapid root-cause analysis and problem solving—User can proactively detect and address potential resource conflicts and systematic/systemic issues BEFORE they cascade into outages and data loss that negatively impact business operations.
- Collaboration and cross-system support—Report creation can be automated, scheduled, and shared with stakeholders within the organization. The same information can be exported in a variety of formats for inclusion into other organizational systems.

The New 9.0 User Experience Includes:

- 50-64% fewer click counts to install, backup, recover, monitor, troubleshoot, and report than competitive solutions.
- Interactive dashboards to protect and instantly recover heterogeneous environments on premise, at secondary sites, and in the Unitrends Cloud.
- Simplified management for thousands of machines.
- The ability to see status over time for all backup and backup copies, and easily drill into each backup for more detail.

Top Level Information Dashboard

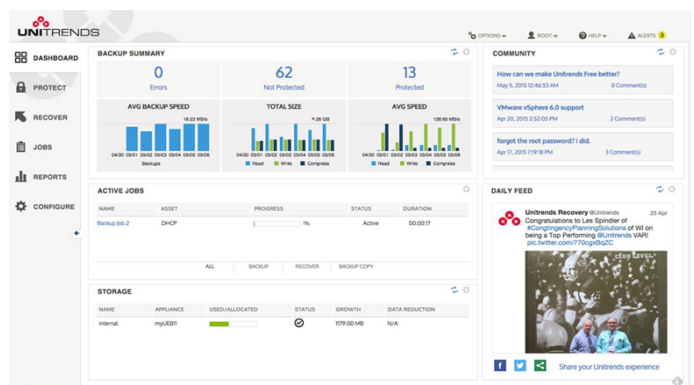
The first tab in the UI is the Dashboard.

The Top View dashboard provides a real-time view of all assets, performance, job status, as well as a full view of all backup and backup copy storage capacity and performance. Tiles can be clicked through to display more extensive information. For more detail, a single-click drills into each tile view for more detail and links to detailed reports.

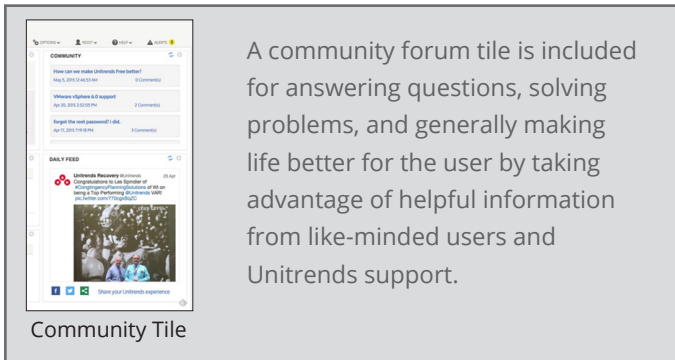


Main Navigation

The main navigational menu is always displayed on the left side of each dashboard, allowing easy mobility between pages and includes the top-level pages for configuring task, job and quick visualization of end-to-end protection of an entire infrastructure, recovery metrics and real-time reporting.



Dashboard Tab



A community forum tile is included for answering questions, solving problems, and generally making life better for the user by taking advantage of helpful information from like-minded users and Unitrends support.

Community Tile

Replication targets will in some cases be referred to as “hot” Backup Copy targets. The term Cold Backup Copies include Tape, Rotational archive disk, public cloud (AWS, Google, etc.), and NAS storage. The term Hot Backup Copies include secondary Unitrends physical or virtual appliance and the Unitrends cloud.

The Backup Copy tiles provide a quick view of the number of assets included in the backup copy, the average speed of data transfer over the past 7 days and the amount of data transfers on each day in a rolling 7 day window.

Integrated Real-Time Community Forum

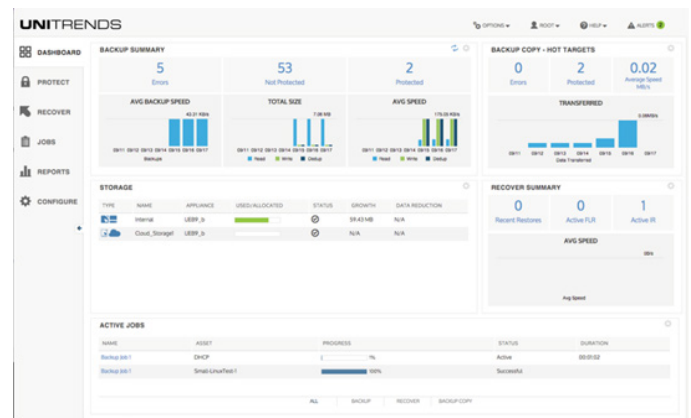
The Community Form tile is included on the Top View dashboard. Click to post questions in the community and get quick answers from Unitrends Support and IT peers, or to search existing articles and other resources.

Additional interactive tiles can be hidden or displayed to enhance user preference. Tiles include a list of currently Active Jobs running across an organizations environment. The Active Job tile includes a progress bar of % completed, the amount of time the job has been running and a filter to determine which active jobs to display (all, backup, recover, backup copy). An interactive Storage tile can be displayed that provides the storage name, name of appliance (physical or virtual) associated with this storage, amount of storage used/allocated, status of storage, daily average growth (growth rate), and current deduplication ratio—all very useful information for an IT administrator managing extensive data growth with limited budgets.

Improve IT Productivity with Simplified & Centralized Backup, Backup Copy, and Recovery Management

Unitrends backup 9.0 easily configures, monitors, and manages the full breadth of backup and recovery across an organization’s entire infrastructure of physical and virtual servers, applications, and storage. From a single interactive dashboard, an IT operator can manage backup, backup copies, recovery, cloud resources, disaster recovery, and replication processes across remote sites, datacenters, and physical and virtual environments.

Replication + Archive = Backup Copy Replication and Archive features are now combined under a single term, Backup Copy.



Customizable Tiles

BACKUP COPY - HOT TARGETS

0 Errors, 25 Protected, 10.3 Avg Speed (MB/s)

DATA TRANSFERRED: 15.6 GB

BACKUP COPY - COLD TARGETS

0 Errors, 25 Protected, 10.3 Avg Speed (MB/s)

DATA TRANSFERRED: 15.6 GB

Customize Tiles Include:

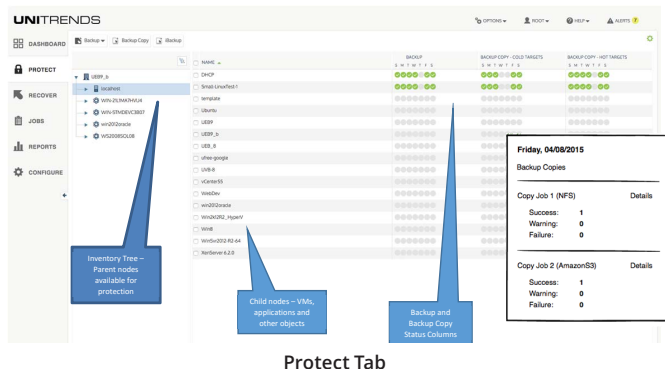
- Backup Summary
- Backup Copy Summary
- Storage Utilization
- Community Forum
- Active Jobs Summary
- Daily Feed
- Recovery

Proactively Resolve Issues Before They Occur: The Protect Tile

Unitrends backup 9.0 quickly identifies risk and problems, displaying status information about individual physical and virtual machines as well as reporting job success and failure in real-time. This gives users the power to quickly identify risks that may exist across an organization’s entire infrastructure, local and remote. Unlike static reporting tools, Unitrends backup v9.0 provides an inventory tree

summary of all configured physical and virtual environments available for protection. Each client/environment is displayed as a top-level parent node, with VMs, applications, and other objects displayed as child nodes. In this single view the IT staff can see the status over time for all backup and backup copies. With a single click on a status day, a status details dialog box opens that includes a rollup of all jobs on that day with success, error, warning statistics. When the Details dialog is clicked, detailed job logs are displayed. With this level of detail, no matter when an issue arises, it can be isolated to the specific point in the backup infrastructure—logical and physical. Once isolated, the IT staff can trace the problem to its root cause, quickly resolve current issues and immediately schedule jobs to ensure protection and recoverability. This capability resolves conflicts and systemic issues before they cascade into catastrophic, expensive failures.

With global search and filter operations, any combination or detail of a backup job or set of jobs is easily accessible, from any location in an organizations infrastructure. As an example, if the IT staff wanted to see all backup and backup copy jobs that failed in the last 24 hours, a global search can be run across all organizational assets to display only jobs that failed to complete in the last 24 hours. This fast access and instant visual review allows the IT staff to quickly identify problems and potential risks. With a single-click they can review more detail on any backup job and quickly access the information needed to quickly resolve any problems. Unlike Unitrends 9.0, static interfaces require logging into every individual asset, across an organizational network, including local, remote, and cloud assets to determine if jobs are complete. And if they failed, users are compelled to run separate tasks with multiple screens to find the problem and more task to complete a repair before the job can be scheduled again. But today with Unitrends 9.0, what takes hours with legacy, static interfaces now takes only minutes.



Protect Tab

Instant Access Equals Fast Recovery: The Recover Tile

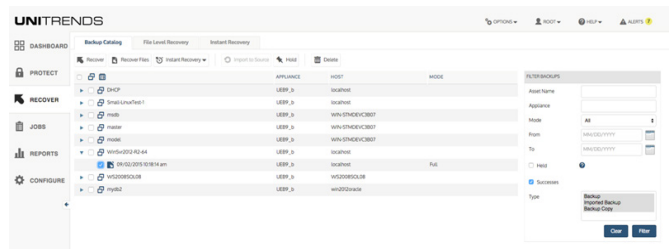
The always-on nature of most organizations has stretched the boundaries of the typical data center and put new strains on the operations layer. Businesses now expect a 24/7 IT experience, which challenges IT teams large and small. The gating factor to fast recovery and continued operation is achieving the shortest possible Recovery Time Objective (RTO). Whether recovering a single file, a virtual machine, a full server, or an entire data center, recovery time is heavily weighted by the amount of time it takes to retrieve the latest data set, locally or remotely, from a secondary site or the cloud. Finding the correct data is often one of the most time-consuming parts of restoring data. In today's always-on environment, reducing the time to identifying the correct data is critical to instant access and fast recovery.

With Unitrends 9.0, recovery is easily managed through the Recovery tile, which use global search and filter to create interactive backup catalogs for fast retrieval of backups from local Unitrends physical or virtual appliances, including "cold" backup copies and "hot" backup copies. Backup, Backup Copies, File Level, and Instant Recovery (Windows, VMware and Hyper-V) are all quickly retrieved from this single interactive recovery dashboard view, which significantly reduces the complexity, time, and overhead required to recover data anytime, anywhere. Within the interactive Recovery tile, IT users can also manage Instant Recovery for VMs (VMware and Hyper-V) as well as Windows Instant Recovery. The File Recovery tab lets an IT user create new and manage existing file recovery objects.

Create, Schedule and Monitor Backup and Backup Copy Jobs: The Jobs Tile

Data is everywhere. It is growing fast and is no longer confined to the physical boundaries of the datacenter. Throughout its lifecycle, information exists in various forms and statuses: at the point of creation, during a period of utilization, and in a final phase of retention for compliance or deletion. It resides in multiple locations, with users (local and remote), or spread across the organization often in different versions, formats, and on various media. In this new IT environment, it makes sense that the adoption of virtualization and cloud services will deliver the dynamic IT infrastructure needed to address agility and distributed base of users, and provide the tools that fit within the confines of the shrinking IT budget. Virtualization and cloud may be the platform of the immediate future, but

these newer options are really just another form of data that is no longer bound by physical datacenter boundaries. More importantly, virtualization and cloud are leading causes of extreme data growth, which further dilutes the idea of traditional datacenter boundaries and adds to the complexity of data protection management.



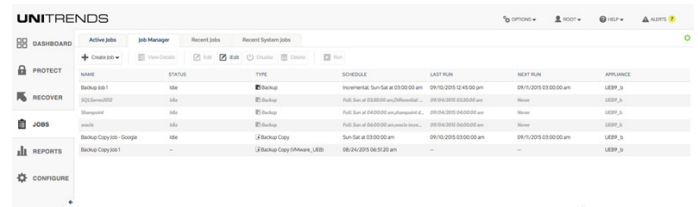
Recover Tab

For most IT staff, it's becoming increasingly time-consuming to protect these various data types, such as physical windows and multiple hypervisors (VMware, Hyper-V and Xen Server), across multiple locations. To make matters more complex, it is also the norm for data to be stored in many different formats on a wide range of media. To address these growing demands, combined with requirement to retain data for longer time period to meet regulatory and compliance requirements, improved tools for backup across a diverse environment are required. Unitrends backup 9.0 centralizes scheduling, management, and monitoring into a single Jobs tile. This tile eliminates the need for multiple backup tools for physical and virtual, another for long term retention or backup copy, and yet another for disaster recovery in the cloud. The Jobs tile consolidates all the task of creating and scheduling jobs across multiple assets and monitors active jobs. Key functions are integrated into an easy-to-use tab architecture:

- The Active Jobs tab displays current running jobs, instances of a scheduled job where each asset protected in a backup job or backup copy job displayed as a separate running instance of that backup job on the Active Jobs tab for easy review, management and monitoring.
- Job Manager tab lets users create and manage jobs. All scheduled jobs are displayed in the job manager. IT Users can create and schedule backup jobs for local assets (physical and virtual), "cold" backup copies for local archive (rotational media, tape and NAS) and public cloud and "hot" backup copies for replication to secondary data centers with Unitrends Backup appliances (physical or

virtual) or the Unitrends Cloud.

- Recent Jobs tab displays historic job information.
- Recent System Jobs tab displays system job history.



Jobs Tab

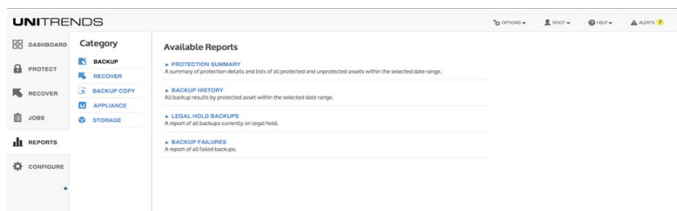
Analysis and Collaboration: The Report Tile

The integrated and intuitive Reports tile allows IT users to create flexible and customized visualizations. Reports can then be scheduled and shared with key stakeholders or IT staff for cross-functional collaboration. In addition, these valuable reports can be exported into a variety of forms and formats for ingestion into other systems such as broader business analytics, billing systems, regulatory reporting, datacenter health, etc. All reports, as described in the following section, can exported in .csv tabulated form or PDF. Additionally, each can be customized to reflect specific time ranges and organizational infrastructure as well as filtered to reflect key information.

Available reports by category include:

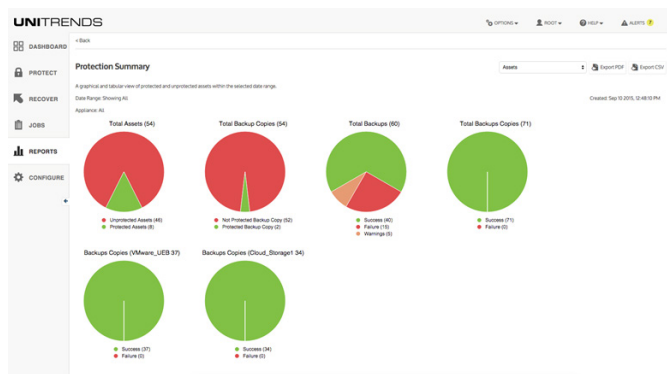
- Backup
 - Protection Summary
 - Backup History—list of all backups, details and status
 - Backup Failures—list of backups, restores, and any failures
- Backup Copy
 - Protection Summary
 - Backup Copy Capacity—total replicated data by replication system
 - Backup Copy History—list of all backup copies, details, and status, including size
 - Backup Copy (Hot Targets)—status of backup copies to Unitrends Cloud and off-site appliances (physical or virtual)
 - Backup Copy Storage Footprint
 - Backup Copy (Cold Targets)—status of backup copies to Public Clouds other media (local rotational, tape, or NAS)
- Recover
 - Recover History—list of all recoveries, details, and status

- Appliance
 - Update History—history of updates applied and status
 - Capacity Report
 - Load Report—graph displaying load on the system
 - Alert Report—history of all alerts
- Storage
 - Storage—storage status and details
 - Data Reduction—deduplication details



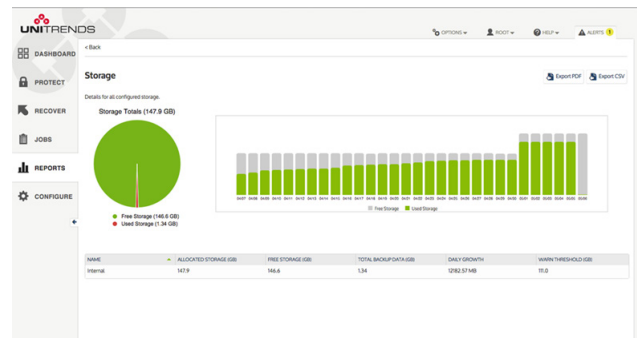
Reports Tab

Example of Protection Summary Report: This report provides a view of protected and unprotected assets, local and in the cloud, across a specified date range. The key benefit of Protection Summary report is a quick visual overview of an organization’s risks. IT staff or senior stakeholders can quickly assess protection and risks across the entire global infrastructure, including local backup and remote backup copies at a secondary site, the public cloud, or Unitrends Cloud.



Protection Summary Report

Example of Storage Utilization Report: This report provides real-time trending of how backup storage is being utilized and growing over time. These growth stats are very helpful when managing disk space across several types of backup targets.



Storage Utilization Report

Conclusion

The results are impressive—the UX that powers the Unitrends Connected Continuity Platform results in a significant reduction in time to complete a task. Providing a simple UX removes much of the complexity (think reduced number of clicks, screens, fields) associated with tasks while reducing operational costs and enabling IT users to work more efficiently and with fewer errors. With a modern experience, Unitrends Connected Continuity Platform combines real-time visualization, feedback, and transactions together in one super intuitive user experience. Business users get insight to data from anywhere in real-time, with a high level of granularity. This enables planning, execution, prediction, and simulation, and ultimately enables informed decisions that can be made on the fly for faster business impact.

IT organizations remain under immense pressures to deliver faster responses to the business and adapt to constantly changing workloads. These demands must be balanced with flat or marginally growing budgets. Faced with exponential data growth that outpaces budgets to buy more infrastructure and an IT staff’s inability to manage it, backup and recovery must adapt to this challenging environment focusing on better tools, usability, real work, and quality of time. At Unitrends, we believe this can only be achieved with Hybrid Cloud Empowered solutions that are centrally managed while also providing a user experience that reduces complexity, improves quality of life, and assures recovery. See it for yourself with a free 30 day trial of our Platform deployed as a virtual appliance in your VMware, Hyper-V or Citrix XenServer environment with Unitrends Enterprise Backup software.



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