

Novell® Collaboration Storage Management Suite

Intelligently Manage File Storage for Maximum Business Benefit

Jason Taylor

Product Manager

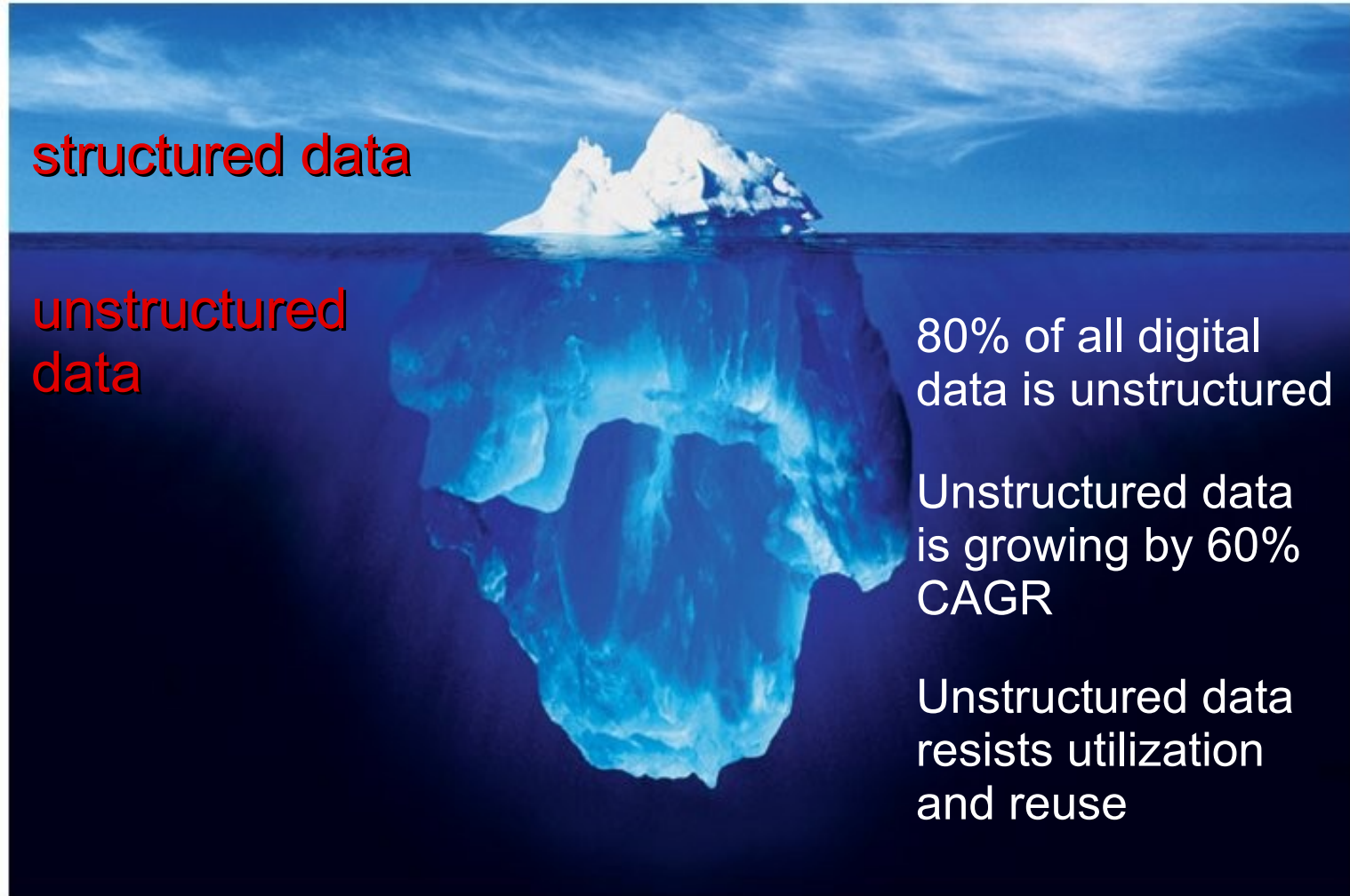
jason@novell.com

Novell®

The Customer's Problem

The Iceberg in the Data Center

Could it sink *you*?



Customer Challenges

- Explosive growth of unstructured data (files)
- Regulatory compliance
- Storage admin tasks highly manual and redundant
- Costs in hardware, power, cooling, administration
- More electronic collaboration = more files
- Hidden value deep in file systems
- Where to start?



Buy More!



Or, Get Smart

Business Benefits of Novell Collaboration Storage Management

- Reduce, Reuse, Recycle!
- Save money & man hours
- Leverage existing investments
- Use your resources for more strategic projects
- Augment existing data center solutions

Two Approaches to Efficiency

Before

- Buy more disk
- Manage blocks
- Manage LUNs
- Hierarchical Storage Management
- Storage Virtualization
- Others

Now

- Assess your current state
- Customize policies for your business requirements
- Control data based on its relevance
- Automate mundane tasks
- Optimize your file storage
- Reduce back-up windows
- Maintain streamlined storage environment

Why not control data at the source? Start with the user.

Do you know...?

How many redundant files are stored?

How many orphaned folders are on the network?

How much space on the network are those files consuming?

How many TB of MP3s are you backing up every night?

How many documents haven't been accessed in the last six months? The last year?

How much time are you spending to back them all up?

Understanding your data is the first step toward rationalizing it

The Novell Solution

A series of horizontal lines in various shades of blue and cyan, located at the bottom of the slide.

What Can Novell do for My Storage?

Collaboration

Unstructured files are a primary output of the productivity and innovation in your organization. It's the information in the files that are valuable. But current solutions ignore the relevance of files, and treat them all the same. Only Novell ties storage solutions to the knowledge worker.

Storage

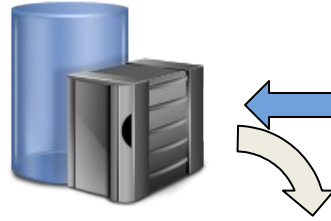
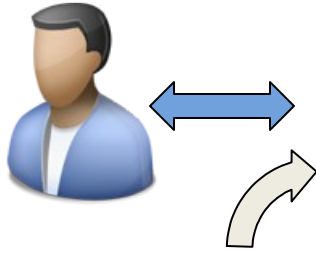
Novell introduced file sharing. It's no surprise that Novell is still the innovator in file storage technologies. Now Novell brings those capabilities to every environment.

Management

Merging Novell's file storage expertise with our market-leading identity technologies creates the most advanced, business-oriented file storage solution available today.

Lifecycle of Unstructured Data

User creates, accesses, saves data to disk



Stale data can be relocated to cheaper storage devices



Automated policies attach data to users and groups, while keeping costs low for IT.



IT assesses data usage patterns and makes or adjust policies to optimize fixed resources

Novell Collaboration Storage Management Suite



Identity Driven Data Management



Policy Based Data Relocation



Automated Data Reporting

1. Novell Storage Manager

Identity-driven Data Management



Novell Storage Manager manages files and folders with policies based on user identities and roles.

IT customizes policies based on their own business rules, thereby automating redundant, low-value tasks over the life-cycle of the file.

- Provisions and de-provisions
- Moves and restructures
- Load-balances and grooms
- Vaults and deletes

2. Novell Dynamic Storage

Policy-based Data Relocation



Novell Dynamic Storage automatically moves “stale” files from expensive primary storage to low-cost secondary storage, based on policies set by IT.

File tiering is accomplished without any impact to the end user; files appear to be exactly where originally stored.

- Windows- and Linux-based file systems
- Customizable policies based on identities and file metadata
- Automated tiering

3. Novell Storage Reporter

Automated Data Reporting



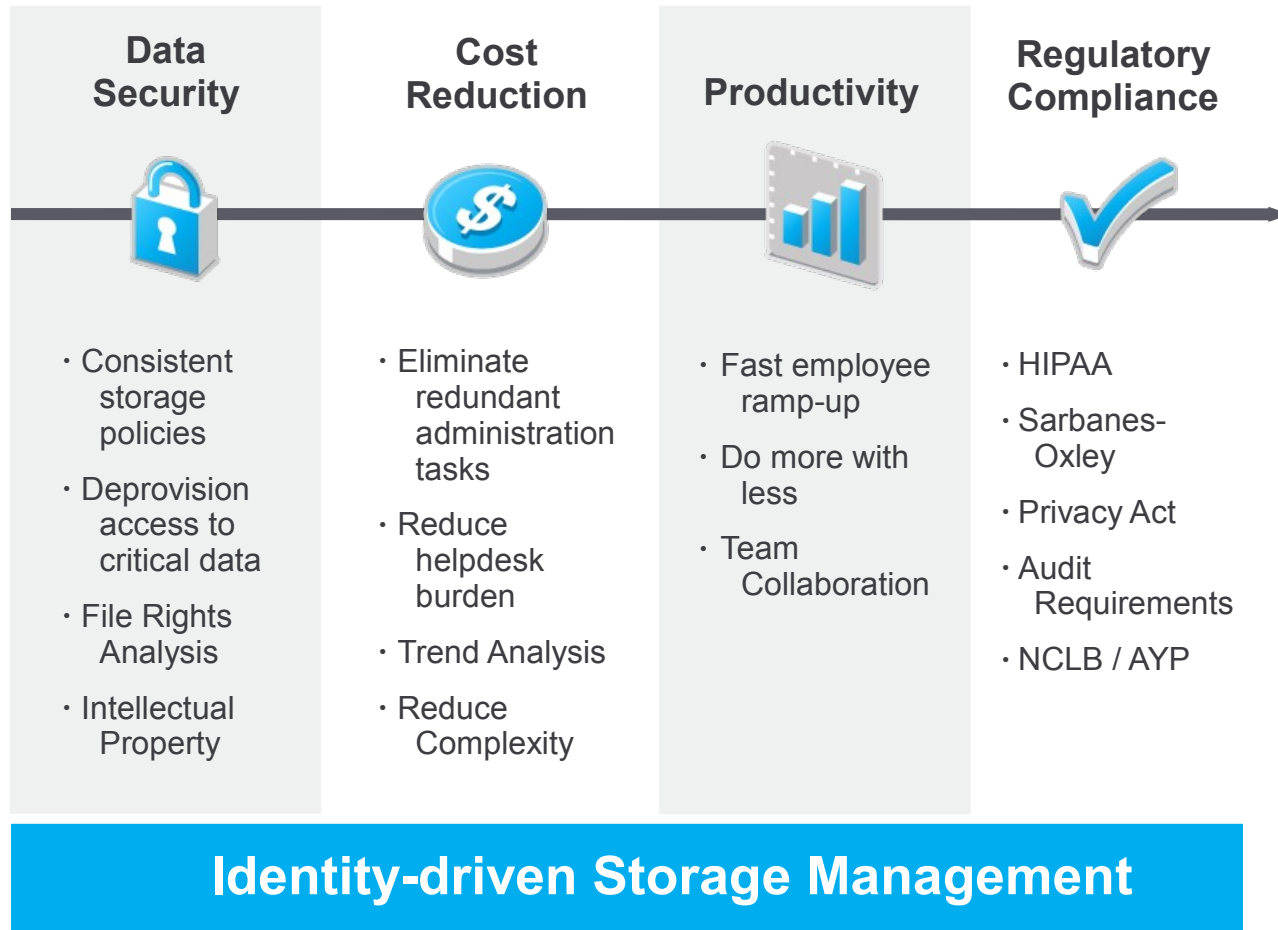
Automated Data
Reporting

Novell Storage Reporter inventories file systems to provide IT with a clear picture of storage resource usage across multiple categories, including user identities.

Reports can be use to construct and fine-tune policies for Novell Storage Reporter and Novell Dynamic Storage.

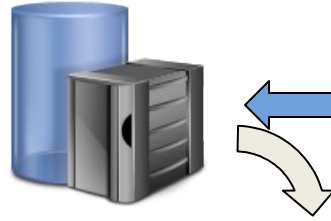
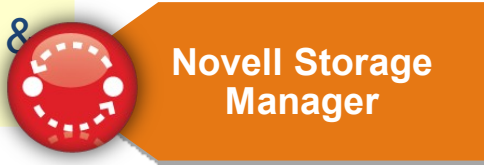
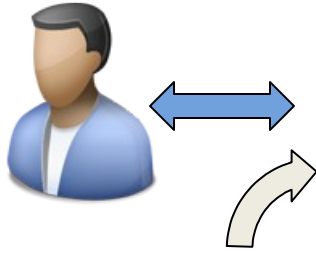
- Immensely scalable
- Scheduled or ad-hoc reporting
- Reports on policies and volumes of data
- Convert report findings into Storage Manager policies

The Common Thread: Identity



The Intelligent Way to Manage Storage

Novell Storage Manager provisions storage based on Identity & Policy



Novell Dynamic Storage allows seamless tiering of storage infrastructures based on Policy.

Storage Manager policies govern life-cycle automation and compliance with regard to file system data.



Novell Storage Reporter produces storage inventory reports that the administrator can use to initially construct and later fine-tune Dynamic Storage policies and Storage Manager policies.

Novell Storage Manager

A series of horizontal lines in various shades of blue and cyan, located at the bottom of the slide.

Benefits

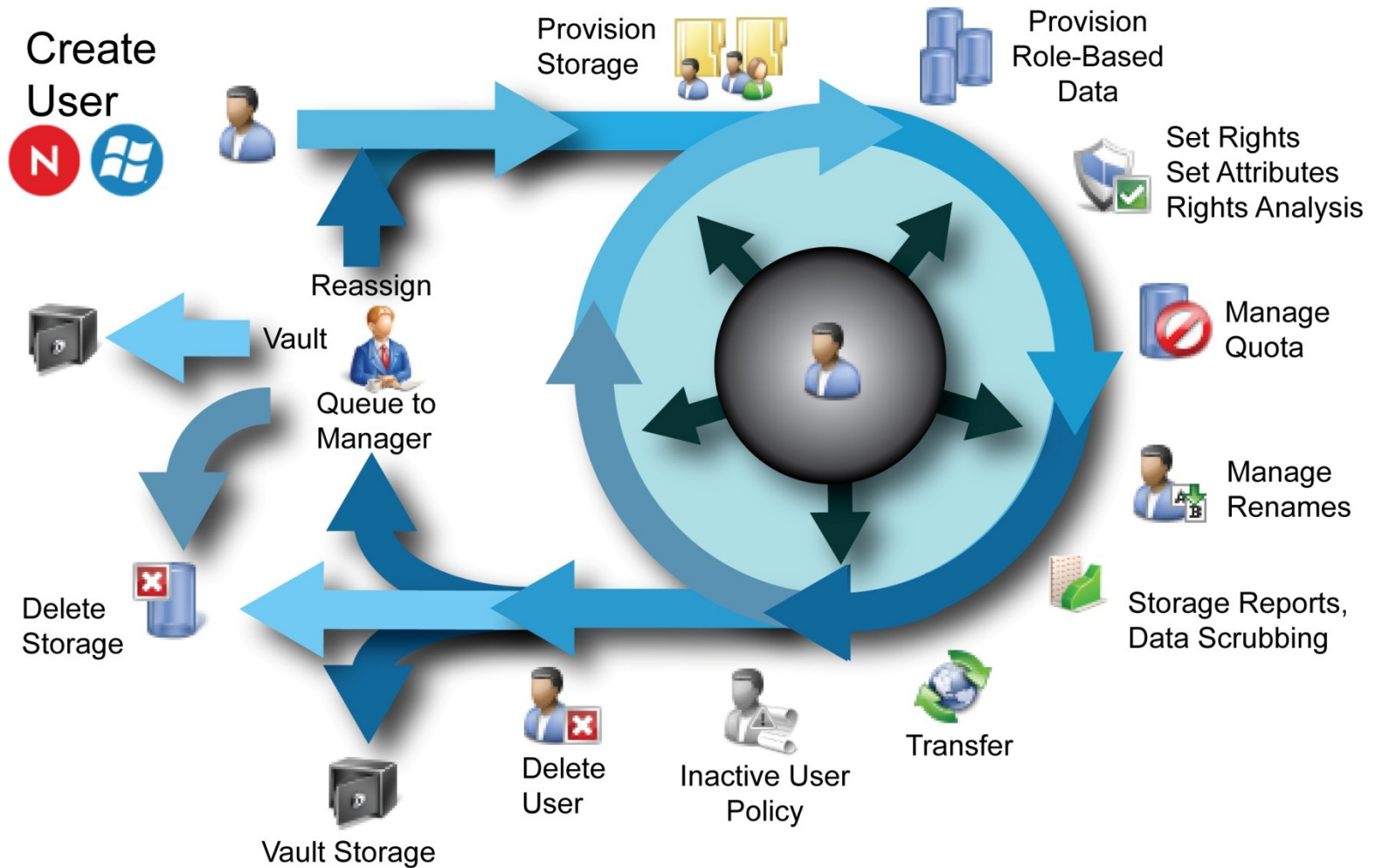
- **Automate** thousands of hours of manual work on mundane and redundant tasks, and reduce errors
- **Exceed** criteria for consistency and audit
- **Ensure** that users have the space they need whenever and wherever they need it
- **Enable user productivity** from Day 1, and cut rights to data upon termination
- **Attach** data to the user based on role and group
- **Have confidence** that data is secure and available should an organization need to prove compliance with government or industry regulations

Return on Investment

5000 User Network	Creation and User Renames	Movement of Storage between locations	Reports & File Grooming	Rights Analysis & Access Mgt	Quota Mgt	Group Storage Mgt	Disable User	Delete User
Events Per Year	200	300	500	500	500	500	50	50
Average Time Per Event - Minutes	15	45	30	30	30	60	30	30
Man Hours Per Year	50	225	250	250	250	500	25	25
Hourly Loaded Cost - Normal Hrs	\$30.00	\$40.00	\$40.00	\$40.00	\$30.00	\$40.00	\$40.00	\$40.00
Yearly Cost Status Quo	\$1,500.00	\$9,000.00	\$10,000.00	\$10,000.00	\$7,500.00	\$20,000.00	\$1,000.00	\$1,000.00
Current Yearly Cost Estimate								\$60,000.00
With NSM - Events Per Year	200	300	500	500	500	500	50	50
Average Time Per Event - Minutes	0	0	5	5	2	2	0	0
Man Hours Per Year	0.00	0.00	41.67	41.67	16.67	16.67	0.00	0.00
Cost Per Year w/NSM	\$0.00	\$0.00	\$1,666.67	\$1,666.67	\$500.00	\$666.67	\$0.00	\$0.00
Yearly Cost Estimate with NSM								\$4,500.00
Total Savings								\$55,500.00

	Status Quo Scenario	NSM Scenario	Annual Savings
* Solution Cost - NSM Software		\$45,000.00	
Management Costs, 1 st Year	\$60,000.00	\$4,500.00	
Total Savings - Year 1	\$60,000.00	\$49,500.00	\$10,500.00

Lifecycle Storage Management Based on Identity and Policy



Novell Dynamic Storage for Windows

A series of horizontal lines in various shades of blue and cyan, located at the bottom of the slide.

Benefits

- **Reduce spend** on incremental hardware
- **Reduce back-up** windows and associated administration costs
- **Value data based on relevance**: Not all users' data is created equal; why treat it that way?

Return on Investment

- Reduce storage costs

- Configuration 1:

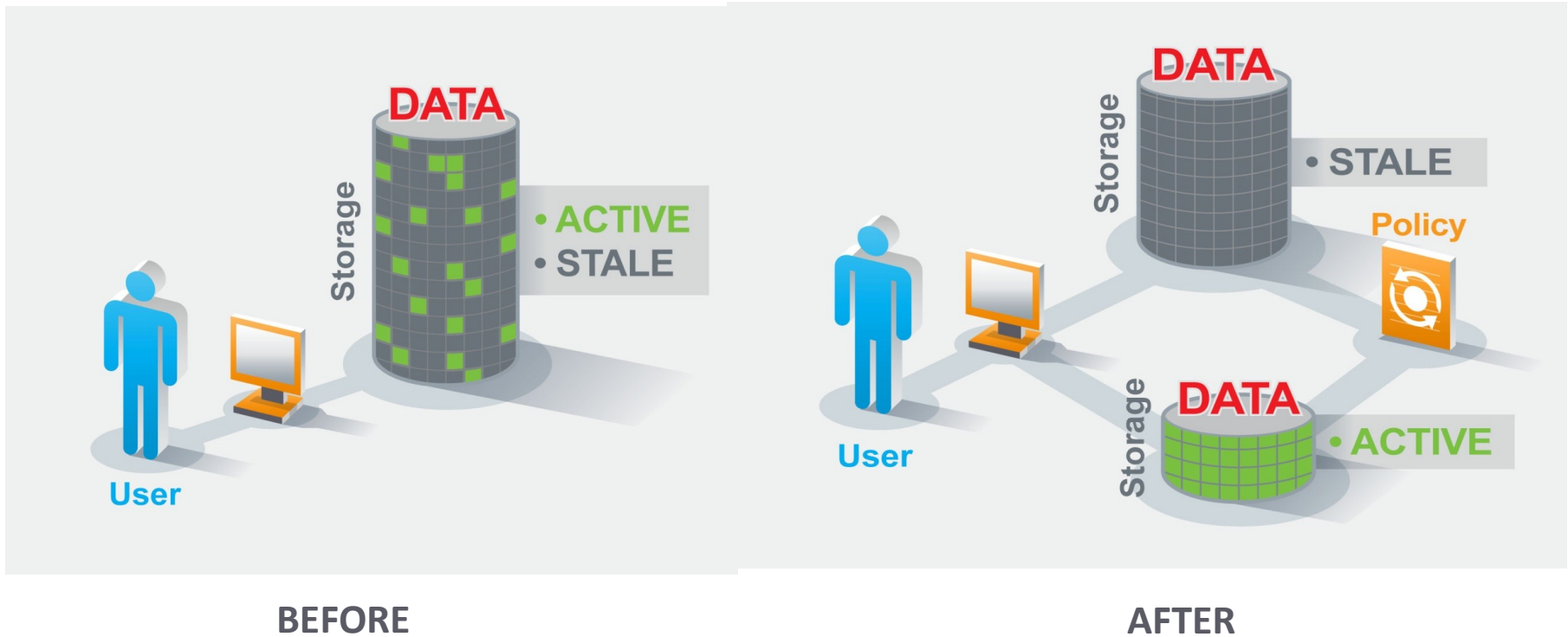
- > 1 TB data
 - > Cost \$10/GB (storage, backups, etc.)
 - > $1000 \text{ GB} \times \$10/\text{GB} = \$10,000$

- Configuration 2:

- > 1 TB data
 - » 15% located on primary storage
 - » 85% located on secondary storage
 - > Primary storage cost \$10/GB
 - > Secondary storage cost \$1/GB (lower cost storage, less frequent backups)
 - > $(150 \text{ GB} \times \$10/\text{GB}) + (850 \text{ GB} \times \$1/\text{GB}) = \$2,350$



Novell Dynamic Storage



Novell Storage Reporter

The bottom of the slide features a series of horizontal lines in various shades of blue and cyan, creating a decorative border.

Benefits

- **Know Thyself**; Get a handle on the chaos in your file system
- **Discover** storage “hogs” and take action
- **Easily convert** reports into automated policies
- **Don't react** to storage needs; **Plan** for them
- **Rationalize** storage infrastructure to save money

Where Has All My Space Gone?

Has there been a significant increase in users?

In what group?

Are there lots of redundant files?

Where?

Who has them?

Is space being abused?

By whom?

Are we at risk?

Are we keeping old files too long?

What are typical usage patterns?

When were these files last used?

Who owns them?

Are they relevant to our business?

Novell Storage Reporter

- Agents for fast, immensely scalable reporting
- Network option
- Familiar GUI
- Report on volumes, or on policies you create
- Built-in cost reporting

The screenshot displays the Novell Storage Reporter interface. The main window, titled 'Duplicate File Report', shows a list of duplicate files. A secondary window, titled 'Storage Cost Report', is overlaid on the main window, showing a table of storage costs for various paths.

Duplicate File Report Window:

- Scopes: NW-658-2/VOL8: 6/12/2009
- Additional Criteria: Create date Modify date File size
- Buttons: Filter, GO
- Number Duplicates: 4540 (4540)

Filename	Total Size (KB)	Number of File
mame elytriform hygiewa rynt	524	82
py.mycoplasm.introversibility.intimty.carfares.habitants.reincorporation.saltfans.cosmology.hic	430	82
distillates admirability femicisms.strotta.socials.ticovous.poot	445	81
leucrotta commiserative		
unequality dentist rediss		
feinted gaveling mindles		
stalactite.ibbie.tendent.j		
zietrisikite reductase kinf		

Storage Cost Report Window:

- Scopes: t-10-250-0-62//etc/opt/novell/ESR 4/17/2009, t-10-250-0-62//etc/opt/novell/ESRGiant 4/16/2009
- Cost/MB: 0.01
- Button: GO

Path	Total Size (MB)	Cost
T10-250-220-222//	13432	134.32
timeserver/G:	23280	232.8
T10-250-220-224//	24888	248.88
T10-250-220-220/G:	29225	292.25
t-10-250-0-62//etc/opt/novell/userfiles	69126	691.26
t-10-40-0-92//etc/opt/novell/dogwood	2145707	21457.07
t-10-250-0-62//etc/opt/novell/ESR	2860962	28609.62

Delivering Unique Value

A series of horizontal lines in various shades of blue and cyan, located at the bottom of the slide, creating a decorative border.

Why This is Different?

Novell is the only solution which...

- **Drives efficiency** with folder- and file-level management
- Manages collaborative files with **no end-user impact**
- Uses **customized policies** to automate manual tasks
- **Connects data to users** throughout the file lifecycle
- Tiers storage based on **relevance to the business**

It's All About People

End Users

- Zero-day Start & Stop
- Information follows the user when location or group changes
- No impact to end users when data moves
- No training required
- Eliminate user frustration of lack of space
- Ensure that relevant data is treated differently than irrelevant data

Administrators

- Maximize utilization of storage investments
- Automate provisioning, de-provisioning and archiving of unstructured files, saving hundreds of hours a year
- End manual intervention to map storage resources to users
- Quickly allocate space on volumes
- Plan in advance for storage acquisitions, only when you need them
- Set policies based on IT and business goals

CIOs

- Know how your storage investments are being utilized
- Accurately forecast and budget on storage spending
- Reports calculate the exact cost savings realized
- Set policies based on business benefits
- Enforce IT policies through automation
- Ensure compliance to regulatory and industry requirements by tying data to users

The Cloud on the Horizon

- Many organizations are looking to move information to an off-premise (cloud) provider
 - Without understanding what information is in use and by who, the decision comes down to “everything” or “nothing”
- Novell Collaboration Storage Management can help
 - Identify what information can be safely moved to the cloud
 - Select information and relocate it to a staging area
 - Once in a staging area the information can be moved to an off-premises cloud provider

Leading Voices



TECHNOLOGY ASSESSMENT

Novell Delivers a New Way of Intelligently Managing Organizations' File-Based Information

“Novell's Storage Manager and Dynamic Storage Technology are well positioned to address emerging challenges.”

“The world must know about this technology....”

*Noemi Greyzdorf, IDC
“Novell Delivers a Way of Intelligently Managing Organizations' File-based Information”*

...to advise their acquisitions. Instead, their own technology decisions, then peruse the sure to find a favorable report about the product



“NSM is a great product both in terms of its functionality and its simplicity of use. ...NSM is powerful on its own, but comes into full fruition when deployed in conjunction with Dynamic Storage technology, also from Novell.”

*Jon Toigo, Enterprise Systems Journal
“Novell Storage Manager Strikes Data Management Gold”*

Novell.[®]

Unpublished Work of Novell, Inc. All Rights Reserved.

This work is an unpublished work and contains confidential, proprietary, and trade secret information of Novell, Inc. Access to this work is restricted to Novell employees who have a need to know to perform tasks within the scope of their assignments. No part of this work may be practiced, performed, copied, distributed, revised, modified, translated, abridged, condensed, expanded, collected, or adapted without the prior written consent of Novell, Inc. Any use or exploitation of this work without authorization could subject the perpetrator to criminal and civil liability.

General Disclaimer

This document is not to be construed as a promise by any participating company to develop, deliver, or market a product. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. Novell, Inc. makes no representations or warranties with respect to the contents of this document, and specifically disclaims any express or implied warranties of merchantability or fitness for any particular purpose. The development, release, and timing of features or functionality described for Novell products remains at the sole discretion of Novell. Further, Novell, Inc. reserves the right to revise this document and to make changes to its content, at any time, without obligation to notify any person or entity of such revisions or changes. All Novell marks referenced in this presentation are trademarks or registered trademarks of Novell, Inc. in the United States and other countries. All third-party trademarks are the property of their respective owners.

