Customized Storage Lifecycle Management with the StorCycle API

Introduction

Organizations around the world continue to create, use and store data at a dizzying pace. Forbes forecasts new data creation to grow at a compound annual growth rate of 23 percent from 2020 to 2025, resulting in almost 175 zettabytes of data by 2025.[i]

This level of data growth requires the deployment of modern and scalable data management tools that can harness and extract the full value of an organization's data, while making sure the data resides on the right storage tier at the right time. In today's digital world, a quality data management platform helps organizations make sense of their data, ensuring that it is readily available and thoroughly protected to drive corporate goals and business decisions.

Spectra's StorCycle® storage lifecycle management software is a simple, affordable and efficient data management solution built to help organizations understand, manage, organize and use their growing repositories of data. StorCycle identifies less active data that consumes expensive primary storage capacity and migrates that data to a more affordable protected tier of storage called the Perpetual Storage Tier, while ensuring all data is fully accessible to users.

Customized Storage Lifecycle Management with the StorCycle API

Spectra StorCycle, developed for scalability and ease of use, provides a user interface that offers intuitive access to powerful Archive and Restore capabilities.

For repetitive tasks and integration with users' management tools, however, its REST API enables customized and automated processing for project creation and job execution.

Use Cases

Repetitive Tasks

Management of large archives with occasional restores can easily be accomplished in the graphical user interface. But many sites have thousands of encapsulated projects requiring setup and execution. Examples below:

- A medical provider creates a case file for each patient. Each case file will be scanned periodically and new files will be archived for protection and compliance.
- A High Performance Computing lab safely preserves data from visiting scientists to match the terms of their grant.
- A federal agency using StorCycle for scientific data expands archive to support user data.
- A law enforcement agency manages bodycam video and digital evidence.

Each of these scenarios can be scripted using the REST API and generated client. Either internal developers or Spectra Logic's Professional Services can create a small script or utility which allows an administrator to type in a case number or user ID and automatically configure the source location, schedule a single or recurring archive job, or restore the data back to primary storage.

As all API calls are supported by the GUI, users can use an archive created by API that can be either viewed, searched, or restored from the GUI depending on the task and operator preferences.

Automation and Integration

The API allows users to integrate StorCycle functionality with other commercial or internal applications. An internal script to create and apportion new users' storage, for example, can be modified to also configure and schedule StorCycle archive through the API.

API Tools

Spectra logic provides a Python client and sample python code for common tasks. This is available at https://github.com/SpectraLogic/storcycle_api

As the API follows the OpenAPI specs, clients can be generated for many languages that have a generator available. Spectra Professional Services has provided utilities using Go and Python. Because the APIs are straightforward, one customer has even scripted automation in PowerShell, parsing and building JSON payloads to create storage locations and projects.

Demo

In this example, a "case" is a top-level directory in an existing StorCycle source location. Use the StorCycle python client and example.py to scan, store and restore the complete directory. Example code is available on GitHub https://github.com/SpectraLogic/storcycle_api or Spectra Logic's developer site https://developer.spectralogic.com/somewhere/somewhere.
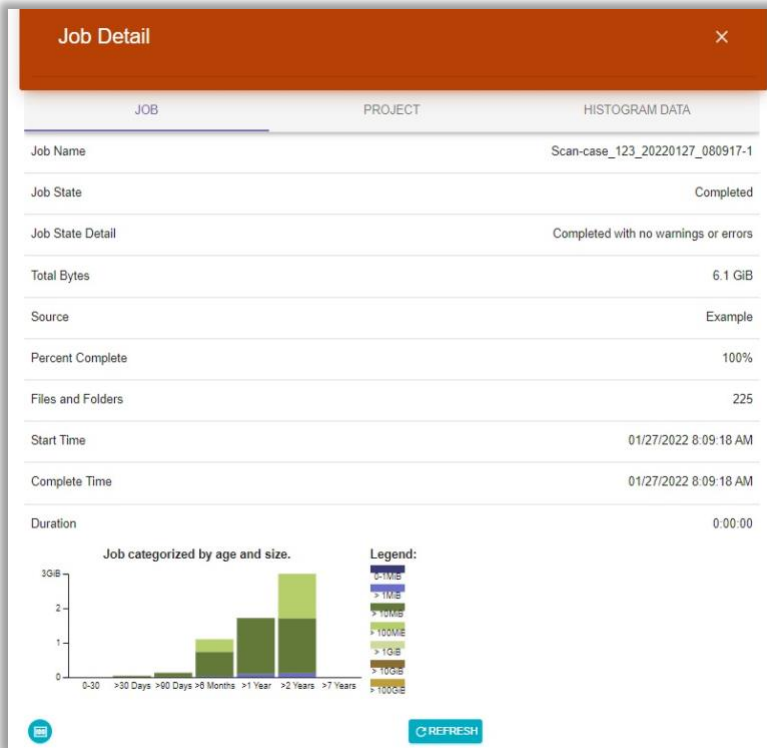
Scan

A separate scan is not required, as the archive is configured to scan before migrating. But the metrics and analysis produced by a standalone scan are frequently useful.

Create and execute a scan job:

```
johnk@JK-P7530-LT MINGW64 /c/sandbox/projects/ssc_client/python
$ py example.py scan case_123
```

View the results in the StorCycle GUI:

Archive

Move all files in the case directory to the storage target defined in configuration.py.

Replace files with a single HTML link to facilitate user restore. (Defined in example.py):

```python
# Request body for migrate project
def make_instance_archive_project(case_name):
    return ApiProjectArchive(
        description="Automatic migration project",
        share=share_name,
        project_type='ScanAndArchive',
        bread_crumb_action="CreateHtmlLinkSingle",
        targets=[
            target_name,
        ],
        schedule={"period": "Now"},
        tags=[
            case_name,
            "auto migrate",
        ],
        active=True,
        working_directory=os.path.sep + case_name,
    )
```

```
johnk@JK-P7530-LT MINGW64 /c/sandbox/projects/ssc_client/python
$ py example.py store case_123
```

View the job details in StorCycle:

See that files in source have been replaced with breadcrumb.
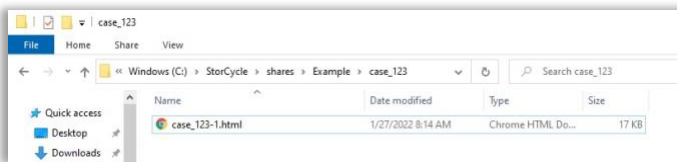
Restore

Recover original files from archive storage. This can be done either through the API or by using the HTML link that was left in the source. The link is good for user restores. It will open the StorCycle GUI and pre-populate a restore project with the correct values.

For an admin restore, the API provides a faster method.

```
johnk@JK-P7530-LT MINGW64 /c/sandbox/projects/ssc_client/python
$ py example.py restore case_123
```

It creates and immediately executes a restore job to the alternate source defined in configuration.py. It could, of course, restore to the original location if preferred.
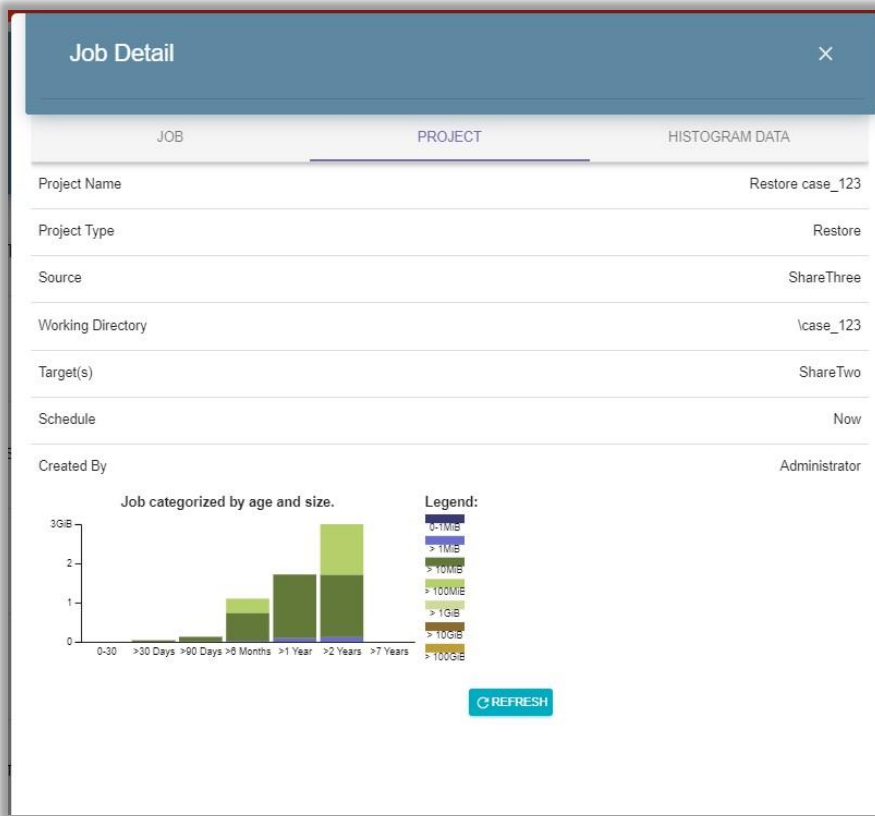
The files have been restored to the desired location.
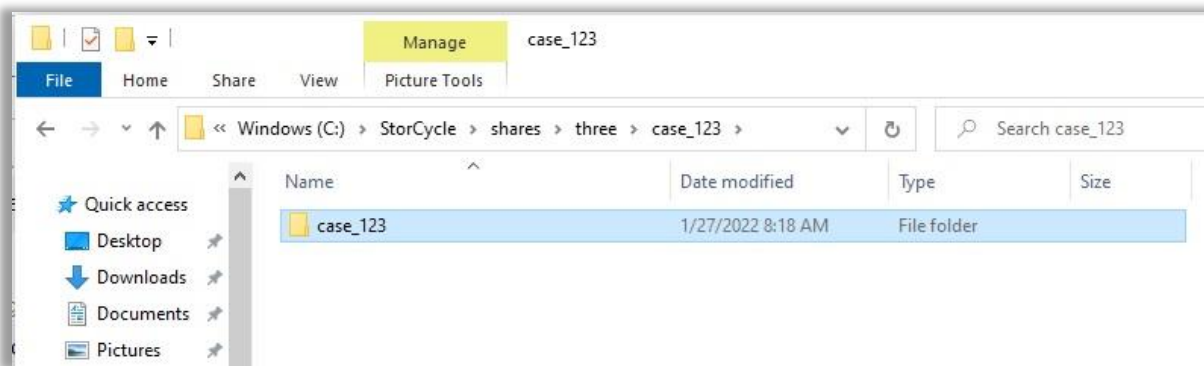
Summary

Effective data management solutions ensure organizations have the right data at the right time to drive decision-making. With StorCycle, organizations can generate clients using the REST API and internal developers or Spectra Logic's Professional Services can create a small script or utility which allows an administrator to type in a case number or user ID and automatically configure a source location, schedule a single or recurring archive job, or restore data back to primary storage. Providing seamless, familiar access and recovery of single files or entire projects, Storcycle enables organizations to manage, share and preserve their data for unparalleled long-term protection and access.

---

[1] Forbes research: https://www.forbes.com/sites/tomcoughlin/2018/11/27/175-zettabytes-by-2025/?sh=440012135459

About Spectra Logic Corporation

Spectra Logic develops a full range of ransomware resilient data management and data storage solutions for a multi-cloud world. Dedicated solely to data storage innovation for more than 40 years, Spectra Logic helps organizations modernize their IT infrastructures and protect and preserve their data with a broad portfolio of solutions that enable them to manage, migrate, store and preserve business data long-term, along with features to make them ransomware resilient, whether on-premises, in a single cloud, across multiple clouds, or in all locations at once. To learn more, visit www.spectralogic.com.