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SDC 25

BY Developers FOR Developers

Regional SDC Denver
April 30, 2025

SNIA
Community Driven S3
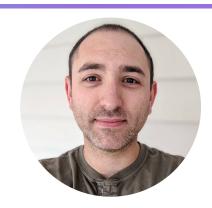# Compatibility Testing

Frank Borich & Jeff Terrace

SNIA

About Us

Frank Borich
Principal Engineer
Cloud Object Storage - IBM

Jeff Terrace
Senior Staff Software Engineer
Google Cloud Storage - Google

Cross-Vendor Compatibility – Why?

Prevents vendor lock-in

Avoids single point of failure

Freedom to react to compliance changes

Cost reduction

Parallel capacity

Innovation

SNIA Resources

[Webinar: Building Community to Tackle Cloud Object Storage Incompatibilities](#)

[Webinar: Navigating the Complexities of Object Storage Compatibility](#)

[Multi-cloud White Paper](#)

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S3 Ecosystem

De facto standard REST XML API
Robust AWS Service Deployment
High Quality Documentation
AWS wrapper APIs (SDKs)
AWS client applications/tools
Other S3-compatible object storage systems
Applications - wide variety of use cases
Large community
Custom extensions and SDK/tool forks

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What's the Problem?

User-facing compatibility issues around S3 ecosystem

    Reliability suffers

    Detection of problems is hard

    Root causing problems is hard

    Workarounds often hard or not possible

    Costly to users and providers

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How Do Problems Happen?

AWS S3 service deployment is continuously changing reference implementation

Documentation not always accurate or complete

Detailed testing is required to determine expectations

Server side changes continually deployed

SDKs/Clients continually updated assuming S3 deployment dependencies

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How Do Problems Happen?

Versioning Strategies / backwards compatibility criteria

Core I/O APIs continuously evolving

Third party implementations typically support a subset

    with new functionality iteratively added

Applications often depend on subset based what's current at dev time

Following best practices

    e.g. ignoring unrecognized HTTP headers

    e.g. rapid SDK updates

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Community – What Can We Do?

SNIA Cloud Object Storage Plugfests

- Compatibility Testing – ensure interoperability
- SNIA provides vendor neutral space
    - Membership not required
- Planning - define test matrix with clients and servers
- Find, fix, and discuss issues before customers do
- Protected by NDA to facilitate open communication
- Don't need to bring a finished product
- Testing of off-the-shelf open-source applications encouraged
- Learn about the ecosystem together
- Brainstorming
- SNIA SDC conference included

Productive testing

Conclusion: collaboration around test tools will help

- Incomplete tools
- Difficult to discover
- Difficult to share (proprietary)
- Biased toward specific implementation

[Summary webinar](#)
[Summary slides](#)

SNIA Cloud Object Storage Plugfest – Denver, CO 2025

Reiterate from last
  More productive, more issues found
  More ISVs
Missing functionality hinders x-vendor compat
Defining "S3 compatibility" is challenging

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Community - What Else Can We Do?

Call to action: join us!

Survey: https://snia.org/test-tool-survey

SNIA Provisional Test Tools TWG (Technical Work Group)

 Collaborate on open-source test suite

 Breakout session later today at 1:00 pm

 SNIA Cloud Object Storage Test Tools (Open-Source Software Project)

 with Adam Gray, IBM and Michael Hoard, Chair SNIA Cloud Storage Technologies

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Will You Be Here In September 2025?

Datadobi

DELL Technologies

Google

HAMMERSPACE

HUAWEI

IBM

Impossible Cloud

Microsoft

NetApp

PURESTORAGE

VAST

Versity

past participants

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For More Information

Visit [SNIA Cloud Storage Technologies (CST) Community](#)
Interested in September COS Plugfest @SDC'25 - email us at
[askcloudplugfest@snia.org](#)
[Pre-Register for September SNIA COS Plugfest @ SDC'25](#)
Presentation: [SNIA Cloud Object Storage Plugfest Update (Community Driven S3 Compatibility Testing)](#)
Presentation: [SNIA Cloud Object Storage Test Tools (Open-Source Software Project)](#)
Please take: [Survey for SNIA COS Test Tools Provisional TWG](#)

**SNIA COS Plugfest
Pre-Registration**

**SNIA COS Test
Tools Survey**

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