External NAS Storage

ISAAC® Workspace relies on a defined storage architecture that separates system and operational data from bulk content stored in the Object Store. A full description of this architecture—including platform variants, internal storage pools, virtual disks, and data allocation logic—is provided in the *"Storage"* white paper and should be reviewed as a prerequisite to this document.

When an external NAS is connected to ISAAC®, it is used **exclusively as the Object Store**, which includes:

- Media Manager content
- Document Center content
- ISAAC® backups
- Thumbnails and other derived media assets
- Other Object Store data used by ISAAC® features

No ISAAC® system files, configuration data, metrics, logs, or VM operational data are stored on the external NAS.

This document defines the technical and functional requirements for provisioning an external S3-compatible object storage system for use as ISAAC's® Object Store. It does not redefine ISAAC's® internal storage behavior, which remains unchanged and is detailed in the *"Storage"* white paper.

Technical Requirements

- The NAS[1] must have an AWS S3 (Object Store) compatible interface enabled.
- The S3 interface must support standard operations to upload and download objects, pre signed URL generation for object access, as well as static S3 access credentials (access key / secret key).
- The S3 interface must be accessible over HTTP or HTTPs. If HTTPs is used, it must have a valid HTTPs certificate.
- The Object Store must be reachable by the ISAAC® Workspace Server and any browser instances of the ISAAC® Workspace UI open by users.

Functional Requirements

- The Object Store must be available at all times for the ISAAC® Workspace to be functional.
- The Object Store must allow ISAAC® to periodically list buckets and scan objects within them to detect outside changes.

Best Practices and Recommendations

- The Object Store's administrator is responsible for backup and disaster recovery of Object Store content.
- Any physical storage should implement redundancy to prevent data loss.
- The Object Store connection should be made using the highest possible throughput network connection to the ISAAC® Workspace server.
- ISAAC® has been tested with MinIO IAStor on a TrueNAS appliance and is known to operate correctly in this configuration.

External NAS Review, Validation, and Support Limitations

ISAAC® supports integration with external Network-Attached Storage (NAS) systems provided that the storage infrastructure conforms to the requirements outlined in this document. Smart Monkeys, Inc. (SMI) does **not** certify or validate third-party NAS hardware, storage operating systems, firmware versions, network designs, or storage configurations. Any review of client-provided NAS specifications is limited to a high-level compatibility assessment against published ISAAC® requirements and shall not be interpreted as approval or validation of performance, reliability, security, redundancy, or long-term suitability for the client's intended use.

Configuration, provisioning, tuning, redundancy design, security hardening, and ongoing administration of the NAS remain the sole responsibility of the client or their designated IT or storage provider. SMI support related to external NAS usage is limited to verifying physical and network connectivity, protocol compatibility, and successful software-level access between ISAAC® and the NAS. SMI does not provide configuration services or ongoing support for NAS hardware, operating systems, network infrastructure, or data integrity beyond this scope.

Important Note on Internal Storage When Using an External NAS: On ISAAC® systems that include an internal capacity-oriented storage pool (typically HDD-based), the addition of an external NAS **does not eliminate the need**

[1] While commonly referred to as a "NAS", ISAAC® integrates with S3-compatible object storage, not traditional file-based NAS protocols (SMB, NFS).

for internal storage. While the Object Store is relocated from the internal storage pool to the external NAS, other system components and services continue to rely on the internal storage architecture.

Internal drives remain required for proper system operation and must not be removed, reduced, or repurposed based on the assumption that they are no longer in use once an external NAS is connected. Removing or modifying internal storage may result in degraded performance, system instability, or unsupported configurations.

License Required

External NAS support requires the appropriate ISAAC® software license and is not enabled by default. Availability of this feature depends on the ISAAC® platform model and supported system configurations.