

# Fixity Checking

Fedora supports two types of fixity: Transmission fixity and persistence fixity.

## Transmission Fixity

Transmission fixity provides a means to verify the integrity of the binary content when ingested, that is, when it is transmitted to the repository. When performing a PUT or a POST of binary content, you can supply the SHA-1, SHA-256, and/or MD5 digests for the binary resource in a request header. If you provide any of these digests on ingest, Fedora will internally calculate the binary's checksum and compare it to the provided digest. If they match, the binary will be stored and an appropriate response (HTTP Code 201 usually) sent to the client. A mismatch will result in a HTTP 409 response. Unless a digest value is included on ingest, Fedora will create and store the SHA-1 digest for the binary resource.

See [RESTful HTTP API - Containers, POST, Examples 4 and 4b](#)

## Persistence Fixity

Persistence fixity provides a means for you to compare an on-demand digest calculation to the (original) stored values, which are saved as server-managed values on the "premis:hasMessageDigest" property.

Users can perform a HEAD or GET request on a binary resource and include, as part of the request, a Want-Digest header, indicating that the server should recalculate the message digest per the provided algorithm and return the calculated digest as part of the response headers. In this way, the client can compare the calculated value with the stored value to determine the integrity of the on-disk stored content. A mismatch suggests some form of binary corruption and the repository manager should investigate and take appropriate actions to remediate.

See [RESTful HTTP API - Fixity](#)

Prior to Fedora 5, a user could invoke the /fcr:fixity service on a binary and the repository would perform the digest comparison for you and report whether the values still matched (or not). NOTE: While this service may still be in the code base and functional, the service has been deprecated. In conjunction with the /fcr:fixity service, it was possible to alter the default fixity checking algorithm used by the /fcr:fixity service on a per-resource basis. The default algorithm Fedora uses is SHA-1. For more information on this deprecated feature, see [RESTful HTTP API - Changing the default fixity checking algorithm](#).