

Enabling Access (CPP-025)

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1. Description of the CPP

The TDA gives access to its *Information Objects* to authorised internal users or end users.

Inputs and outputs

Input(s)	
Data	Request for a <i>DIP</i>
Metadata	Request <i>Metadata</i> specifying the kind of digital <i>Objects</i> to be accessed (master <i>Files</i> or derivatives)
Documentation / guidance <i>e.g. Formats policy</i>	Access policy
Output(s)	
Data	<i>DIP</i>
Metadata <i>e.g. New Representation properties; New provenance metadata</i>	<i>Technical metadata</i>

Definition and scope

Data access in digital preservation refers to the ability to retrieve, view, and use preserved digital materials in meaningful ways over extended periods of time. The access as a whole involves several aspects. This CPP concentrates on the aspects within technical accessibility, and leaves out aspects like **Enabling Discovery** (CPP-024) and delivery methods (e.g. user interfaces and APIs). A TDA must implement access to the data it preserves to consumers that are authorised to access the data in question.

Technical accessibility means ensuring that digital *Files* remain readable and usable despite technological change. This requires maintaining compatibility with current systems through **File Migration** (CPP-014), emulation strategies (CPP-015 **Emulation and Rendering Tools**), or preservation of legacy hardware and software environments. The preserved data must be retrievable from storage systems and renderable in forms that users can actually engage with.

From a technical point of view, **Enabling Access** is about providing *DIPs* containing the requested data in appropriate *Representations*. The TDA, upon receiving a request, creates and provides a *DIP* from one or more *AIPs* stored in the TDA. The TDA also, if it supports this, provides access to derivatives that are *Representations* of the preserved data that are specifically created for use, viewing, or interaction, rather than giving them access to the master data. The derivatives can be created at different stages of digital preservation: in pre-ingest phase, during ingest, within the preservation lifespan, or on the fly when the derivative is needed. This approach is TDA-dependent and can be enforced by a policy. In any of these cases, however, the access process should always provide the data in the form

of a *DIP* by a TDA to a consumer (e.g. end user; portal or aggregator; data publication platform or some other service or system communicating with the TDA).

The accessed data may include restrictions or sensitive, confidential or rights-protected parts (CPP-020 **Rights Management**). Also, an organisation's data can be non-public, and/or non-accessible for other organisations. Therefore, access should incorporate authentication and authorisation functions to control who can access what data, implementing necessary restrictions while enabling legitimate use. Restrictions on accessing data (particularly digital *Objects*) are usually different from restrictions to find and discover data (CPP-024 **Enabling Discovery**).

Process description

Trigger event(s)

Trigger event e.g. Report from risk assessment	CPP-identifier e.g. CPP-14 (Preservation Risk Management)
Request for a <i>DIP</i>	

Step-by-step description

No	Supplier	Input	Steps	Output	Customer
1		<i>DIP</i> request	The TDA receives a <i>DIP</i> request specifying the type of data to be accessed	Requester info from the request	
2		Requester info from the request	The TDA authenticates the request	Authenticated request (step 3)	
				Rejected request (return rejection message to requester, got to step 4 and then end the process after logging it)	
3		Requester info from the request	The TDA authorises the request	Authorised request (step 4)	

	CPP-020 (Rights Management)	Rights statement		Rejected request (return rejection message to requester, got to step 4 and then end the process after logging it)	
4		<i>DIP</i> request	The TDA logs the request for statistical reporting and auditing	Access log	
5a		Authenticated and authorised request	The TDA locates the <i>AIP</i> or set of <i>AIPs</i> , from which the <i>DIP</i> is created	<i>AIP</i> or a set of <i>AIPs</i>	
5b		Non-authenticated or unauthorised request	The TDA responds with error	Error response	
6a		<i>AIP</i> or a set of <i>AIPs</i>	The TDA ensures that the selected <i>AIP</i> or set of <i>AIPs</i> is valid and intact (e.g. performs checksum validation and other potential checks)	<i>AIP</i> or a set of <i>AIPs</i>	
6b	CPP-028 (Creation of Derivatives)	<i>AIP</i> or a set of <i>AIPs</i>	If the request includes derivatives that should be created, the TDA uses CPP-028 (Creation of Derivatives) to create the copies on the fly (if the TDA supports this)	<i>AIP</i> or a set of <i>AIPs</i>	
6c		<i>AIP</i> or a set of <i>AIPs</i>	The TDA creates a <i>DIP</i> from the <i>AIP</i> or set of <i>AIPs</i> (<i>AIP</i> to <i>DIP</i> transformation) and the potential derivatives	<i>DIP</i>	
6d		<i>DIP</i>	The TDA checks that the created <i>DIP</i> is valid according to its specifications before making it available	<i>DIP</i>	

7		<i>DIP</i>	The TDA makes the <i>DIP</i> available to the requester or consumer	Delivered <i>DIP</i>	
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Rationale(s)¹ and worst case(s)

Rationale	Impact of inaction or failure of the process
Data access is an essential functionality of a TDA, because of its purpose to maintain the long-term availability of the preserved information. Preservation aims to ensure that information remains discoverable, accessible and usable.	Without access, digital preservation becomes just an expensive storage. Thus, the TDA fails to fulfill its purpose to maintain the long-term availability of digital <i>Objects</i> over time.

2. Dependencies and relationships with other CPPs

Dependencies

CPP-ID	CPP-Title	Relationship description
CPP-002	Checksum Validation	During the access process, the fixity of the provided digital <i>Object</i> is validated.
CPP-005	Identifier Management	Accessing digital <i>Objects, Files or Metadata</i> should be based on identifiers as parameters.
CPP-020	Rights Management	The TDA must assess access rights to check it is authorised to provide access to the requester.

Other relations

Relation	CPP-ID	CPP-Title	Relationship description
Required by	CPP-015	Emulation and Rendering Tools	The access request is the trigger to invoke the rendering process or start up the emulated environment.
Required by	CPP-017	Disposal	Disposal prevents access to the <i>Objects</i> . Also, preventing access can be considered as “logical disposal”.
Required by	CPP-028	Creation of Derivatives	The request for access can trigger the creation of a derivative for rendering purposes (e.g. derivatives may be

¹ Term derived from PREMIS.

			created on the fly if Access cannot rely on an existing derivative).
Affinity with	CPP-013	Object Management Reporting	Access of contents includes providing <i>Provenance metadata</i> , statistical data and quality reports to the consumer.
Affinity with	CPP-019	Data quality assessment	<i>DIPs</i> should conform to the quality aspects specified by the TDA.
Affinity with	CPP-024	Enabling Discovery	Enabling Discovery is about making data findable, while Enabling Access is about providing the data to a consumer. Data may have different restrictions for discovery and access.
Not to be confused with	CPP-006	AIP Batch Export	Enabling Access does not export the data from TDA.

3. Links to frameworks

Certification

Certification framework	Term used in framework to refer to the CPP	Section
CTS Link	Access	R01 The repository has an explicit mission to provide access to and preserve digital objects. R03 The Repository has a plan to ensure ongoing access to and preservation of its data and metadata.
Nestor Seal Link	Access	C4 Access
ISO 16363 Link	Access, access management	3.1.1. 4.6

Other frameworks and reference documents

Reference Document	Term used in framework to refer to the process	Section
OAIS Link	Access	4.2.3.8. Access
PREMIS Link	Dissemination	Glossary

4. Reference implementations

Publicly available documentation

Institution	Organisation type	Language	Hyperlink
TIB – Leibniz Information Centre for Science and Technology and University Library, Germany	National library	English	https://wiki.tib.eu/confluence/spaces/lza/pages/93608366/Access
	Non-commercial digital preservation service		
	Research infrastructure		
	Research performing organisation		
CSC – IT Center for Science Ltd., Finland	Non-commercial digital preservation service	English	https://urn.fi/urn:nbn:fi-fe2023062157386 (section 2.2, Principles 3 and 5)