Community Watch (CPP-018)

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1. Description of the CPP

The TDA monitors its *Designated Community* in order to identify its evolving needs and knowledge.

Inputs and outputs

Input(s)	
Documentation / guidance	Preservation Policy
	Mission Statement
	File Format Policy - Preferred formats
	Emulation and rendering policy
	List of emulation and rendering tools
	File Format Policy - Identification
	File Format Policy - Validation
	List of identification and validation tools
	Access Policy
	List of tools used for derivatives generation or normalisation
	Metadata recording policy
	List of metadata schema or serialisation used
	List of tools used for (automated) *Metadata* generation and handling
	Designated Community definition
	Description of Designated Community's Knowledge Base
	Preservation Objective
Output(s)	
Documentation / guidance	Report on changed Designated Community structure
	Report on updated file formats or data types used by Designated Community
	Report on changed or new significant properties

	Report on updated access, use and re-use requirements
	Report on updated *Metadata* requirements
	Report on updated legal or policy impact
	Report on updated methods, processes or concepts used by Designated Community
	Report on updated requirements for Preservation objective
	Report on risk
	Report on software changes
	Report on updates to file format identification and validation
	Report on changes to migration tools
	Report on changes to *Metadata* generation and handling tools tools

Definition and scope

The TDA must monitor its *Designated Community* in order to identify its evolving needs and knowledge.

Information packages within a TDA are stored for a group of current and future users (i.e. the *Designated*). A *Designated Community* is always specific to a TDA and it may change over time (e.g. as data from a different sub-discipline are being deposited or the method of intended access or interaction to data changes over time). In addition to the *Designated Community* itself, the TDA should define what can be assumed as knowledge within the *Designated Community* (e.g. what language they speak, what scientific methods they understand and what file formats or metadata standards they can interact with). This is referred to as the *Designated Community*'s Knowledge Base. Lastly, the TDA must plan for the Preservation Objective, meaning how the *Designated Community* can use the data. A Preservation Objective should be specific, actionable and measurable. While the *Designated Community* is the "who" and "with what knowledge or skills", the Preservation Objective is the "how".

For example, see these two fictive TDAs:

TDA1 preserves civil engineering data for research and practice within Germany. The data preserved is currently 3D point-cloud scans in file formats LAS/LAZ and e57. Based on the content they currently preserve, they define their *Designated Community* as researchers from the discipline of civil engineering including all subdisciplines as well as specialists working in these fields (e.g. as urban engineers within Germany). The *Designated Community*'s knowledge base is built on the German language; includes principles such as mechanics and materials science; methods such as simulation and surveying as well as tools such as Computer-Aided Design; and 3D point-cloud scanning. One of the *Preservation Objectives* is for the

Designated Community to be able to render separate point-cloud scans of the same location on their own systems and to perform tasks including deformation monitoring on the data.

TDA2 preserves oral history data in a university located in Spain. The data preserved is from a long-term collaborative research project between the institutes for political science and for recent Spanish history and contains interviews with contemporary witnesses on the Spanish Transformation to Democracy (La Transición Española)**.** The data can currently only be accessed by staff from the two affiliated institutes. In 2040, access to the data will be opened to the wider research community. The TDA defines its *Designated Community* as the researchers from the two affiliated institutes as well as researchers for those disciplines throughout Spain. The *Designated Community*'s knowledge base is built on the Spanish, Catalan, Galician and Basque languages; includes the historical context of the data; political science concepts; and oral history and testimonial methods. One of the *Preservation Objectives* is for the *Designated Community* to be able to load the original data into their qualitative data software for coding and thematic analysis.

The CPPs assume that the TDA's *Designated Community* including its knowledge base and the *Preservation Objective* have been defined and are available in guiding documentation such as a mission statement, a preservation policy or preservation action plan(s). Such a *Designated Community* definition typically includes current depositors or data producers and current consumers of the data, but also needs to take into account potential future user groups.

Often, the *Designated Communite*s themselves look to the TDA for advice on data handling practices, especially connected to file formats, data packaging or *Metadata*. To adequately support current day and future users, it is therefore crucial to also monitor usage trends, good practice and risks associated with file formats, data types and *Metadata* which the TDA already supports or intends to support in the future. This information is typically found outside of the research communities themselves. Communities to turn to for this include digital preservation, digital curation and research data management communities as well as existing communities around file formats, *Metadata* and software.

OAIS has the functions "Monitor *Designated Community*" and "Monitor Technology" feed into the "Preservation Watch" function. All three are part of the preservation planning functional entity. In addition, OAIS mentions the environment itself (e.g. financial, political, environmental) as a potential source to monitor and feed into Preservation Watch. In practice, the monitoring functions are often described as "Technology Watch", "Organisation Watch", "Community Watch" and "Preservation Watch".

Within the scope of the CPP, Community Watch covers monitoring of:

- The *Designated Community*, its *Knowledge Base* and *Usage Scenarios*;
- Digital Preservation, Digital Curation, Research Data Management communities;
- File Format Communities and (emerging) good practice, risks and developments;
- Metadata Communities and (emerging) good practice, risks and developments;
- Software Communities and (emerging) good practice risks and developments.

The CPP Community Watch therefore covers more than monitoring the *Designated Community*. It integrates information sources closer to the Technology Watch or *Monitor Technology* (OAIS) function. Since it is important to stress the relevance of the unique *Designated Communite*s whose *Preservation Objective* needs to be supported by matching tools and processes within the TDA, the name *Community Watch* was chosen here.

Process description

Trigger event(s)

Trigger event	CPP-identifier
Continuously running activitiy	/

Step-by-step description

No	Supplier	Input	Steps	Output	Customer
			1. Designated Community and Knowledge Base Description		
1-1		Mission Statement	Choose, design and implement methods to monitor changes in the *Designated Community* (e.g. user survey, feedback form, web/usage analytics, support channel, scientific advisory boards etc.)		
		Preservation Policy			
1-2			Evaluate feedback from evaluation method		
1-2a			If an indicator is given for a changed *Designated Community* (i.e. new discipline uses data or previously defined discipline no longer uses data)	Report on changed Designated Community structure	Administrative entity for review of guidance documents (designated community definition)

					CPP-017 Disposal (Update to Retention Policy)
1-2b			If an indicator is given for a changed *Knowledge Base* impacting file formats or data types used	Report on updated file formats or data types used by *Designated Community*	CPP-008 File Format Identification (Update to File format policy) CPP-015 Emulation and Rendering Tools (Update to Emulation and rendering policy) CPP-022 Significant Properties Definition (Update to Significant Properties Policy) CPP-026 File Normalisation (Update to preferred file formats list) CPP-028 Creation of Derivatives (update File format policy - Derivatives: formats)
1-2c			If an indicator is given for a changed *Knowledge Base* impacting significant properties used or extracted from File formats or data *Objects*	Report on changed or new significant properties	CPP-022 Significant Properties Definition (Update to Significant Properties Policy)

					CPP-024 Enabling Discovery (Update to queries leveraging changed or new significant properties)
1-2d			If an indicator is given for a changed *Knowledge Base* impacting software used in accessing or interacting with data or re-use scenarios	Report on updated access, use and re-use requirements	CPP-015 Emulation and Rendering Tools (Update to Emulation and rendering Policy)
					CPP-024 Enabling Discovery (Update to queries)
1-2e			If indicator is given for changed *Metadata* width, depth, syntax or serialisation	Report on updated *Metadata* requirements	CPP-016 Metadata Ingest and Management (Update to metadata policy)
					CPP-024 Enabling Discovery (Update to queries)
1-2f			If indicator is given for legal or policy impacting restricted or extended access to *Objects*	Report on updated legal or policy impact	CPP-020 Rights Management (Update on Rights Statements)
					CPP-025 Enabling Access (Update on Access Policy)

1-2g			If indicator is given for changed methods, processes or concepts	Report on updated methods, processes or concepts by *Designated Community*;	Administrative entity for review of guidance documents (Knowledge Base description)
1-3		Mission Statement, Preservation Policy	Check all steps above for impact on *Preservation Objective.* If an indicator is given for a changed *Preservation Objective*	Report on updated requirements for *Preservation objective*	Administrative entity for review of guidance documents (Preservation objective, Designated Community Knowledge Base)
					CPP-019 Data Quality Assessment (Update on Quality properties)
2. Supported file formats and data types description					
2-1		File format policy - preferred file formats	Choose, design and implement methods to monitor changes in file formats and data types, including networks around supporting software (e.g. observing file format networks, observing digital preservation and digital curation networks, conference proceedings, journal articles, querying knowledge bases etc.)		
2-2			Evaluate information		

2-2a			If risk in file format or data type is raised	Report on risk	CPP-023 Risk Definition and Extraction (Update on risk)
			If file format is no longer supported or rationale behind initial choice for format is no longer true (e.g. no longer widely used)	Report on risk	Administrative entity for review of impact (Preservation Intent definition)
					CPP-023 Risk Definition and Extraction (Update on risk)
2-2b		Emulation and rendering Policy	If tool to support file formats rendering or emulation is no longer supported or available or a new version has become available	Report on software changes	CPP-023 Risk Definition and Extraction (Update on risk)
		List of emulation and rendering tools			CPP-015 Emulation and Rendering Tools (Update to Emulation and rendering Policy)
2-2c		File format Identification and Validation Policies	If new tool or method to support file format identification or validation becomes available OR If file format identification or validation tools used is no longer supported or available OR If new versions of the tools have become available	Report on updates for file format identification	CPP-008 File Format Validation (Update to File Format Policy)
		List of identification and validation tools			CPP-010 File Format Validation (Updates to File Format Validation Policy)

2-2d		Access Policy	If there is a migration path defined in the Access policy (e.g. to create derivatives or to normalise *Files* in pre-ingest) and the tool used for this is no longer supported or available, or a new version has become available	Report on changes to migration tools	CPP-025 Enabling Access (Update to support for *DIP* creation)
		File Format Policy			CPP-026 File Normalisation (Update to tools used for normalisation)
		List of tools used to derivatives generation or normalisation			CPP-028 Creation of Derivatives (update to File format policy - Derivatives: tools)
3. Supported *Metadata*					
3-1		Metadata policy	Choose, design and implement methods to monitor changes in syntax, schema and serialisation used for *Metadata* in the TDA		
		List of used metadata schema / serialisation in the TDA			
3-2			Evaluate information		
3-2a			If risk in *Metadata* syntax, schema or serialisation is raised	Report on risk	Administrative entity for review of impact (Preservation Intent definition)

					CPP-023 Risk Definition and Extraction (Update on risk)
					CPP-024 Enabling Discovery (Update to queries)
3-2b			If *Metadata* syntax, schema or serialisation is no longer supported or rationale behind initial choice for syntax, schema or serialisation is no longer true (e.g. no longer widely used)	Report on risk	Administrative entity for review of impact (Preservation Intent definition)
					CPP-023 Risk Definition and Extraction (Update on risk)
					CPP-024 Enabling Discovery (Update to queries)
3-2c		List of tools used within TDA for (automated) *Metadata* generation and handling (e.g. validation, conversion)	If new method to support *Metadata* generation and handling becomes available OR If tools used are no longer supported/available OR If new versions of the tools have become available	Report on changes to *Metadata* generation and handling tools tools	CPP-009 Metadata Extraction (Update to methods or tools for metadata extraction)
					CPP-016 Metadata Ingest and Management (Update ot methods or tools for metadata ingest and management)

				CPP-024 Enabling Discovery (Update to queries)

Rationale(s)[1] and worst case(s)

Rationale	Impact of inaction or failure of the process
The TDA takes responsibility for the long-term stewardship of data for the Designated Community. TRUST : R-Reponsibility	Data will not meet the needs of the *Designated Community*.
The TDA must monitor and identify expectations and requirements of its Designated Community and act to meet these changing requirements. TRUST : U-User Focus	
The TDA must use adequate tools to support the needs of the Designated Community and update these accordingly. TRUST : T-Technology	
The TDA should conduct its own watch of the digital preservation, digital curation and research data management communities TRUST : R - Responsibility	Processes adopted might not meet the needs of the *Designated Community* specific to the TDA.
The TDA should conduct its own watch of those file format, software and *Metadata* communities relevant to the TDA's holdings TRUST : T-Technology	

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[1] Term derived from PREMIS.

2. Dependencies and relationships with other CPPs

Dependencies

CPP-ID	CPP-Title	Relationship description
	/	/

Other relations

Relation	CPP-ID	CPP-Title	Relationship description
Affected By	CPP-009	Metadata Extraction	Either due to changing significant properties or due to updated tools, metadata extraction requirements can be affected.
Required By	CPP-012	Risk Mitigation	Changing community needs affect the risks and the mitigation of those.
Required By	CPP-019	Data Quality Assessment	The signals from the community may affect the Data Quality Assessment. The Data Quality Assessment performed during Ingest may for example result in extraction of quality properties that are required by the *Designated Community*.
Required By	CPP-022	Significant Properties Definition	Significant Properties Definition is fundamental to ensure that information and features supported by the *Objects* are those that the TDA's *Designated Community* is expecting.
Required By	CPP-023	Risk Definition and Extraction	Risk is measured against the skills and tools available in the *Designated Community*.
Required By	CPP-024	Enabling Discovery	The TDA must have identified the needs of its *Designated Community* in order to enable queries that support the community's defined query scenarios.
May be required by	CPP-017	Disposal	Community watch treats Disposal as a customer in cases where, for instance, a collection previously archived within

			the TDA has been also added to a different TDA and will be preserved there. Required actions downstream must be taken into account within the disposal process (e.g. notifying stakeholders about the changed preservation location).

3. Links to frameworks

Certification

Certification framework	Term used in framework to refer to the CPP	Section
CTS Link	'Designated Community'	R0(04) Designated Community. "A repository must have an understanding of the Designated Community's composition, skills, knowledge base, and needs, and how these may transform over time. This includes an understanding of typical re-use scenarios and purposes[] It should also be clear how the applicant monitors and responds to changes in the needs of the Designated Community.
	'Mission and Scope'	R1. The repository has an explicit mission to provide access to and preserve digital objects.
Nestor Seal Link	'Designated Communities', 'Community Watch'	C3. "Changes in the designated communities and their requirements should be monitored and mechanisms installed for dealing with them."
ISO 16363 Link	/	4.5.1 The repository shall specify minimum information requirements to enable the Designated Community to discover and identify material of interest.

Other frameworks and reference documents

Reference Document	Term used in framework to refer to the process	Section
OAIS Link	Monitor Designated Community function	4.2.3.7 "The Monitor Designated Community function interacts with

		Archive Consumers and Producers to track changes in their service requirements and available product technologies.Such requirements might include data formats, media choices, preferences for software packages, new computing platforms, and mechanisms for communicating with the Archive. This function may be accomplished via surveys, via a periodic formal review process, via community workshops where feedback is solicited or by individual interactions. This function will watch to ensure that the OAIS holdings remain Independently Understandable to the Designated Community. It provides reports, requirement alerts and emerging standards to the Preservation Watch function. It sends preservation requirements to Develop Packaging Designs and Preservation Plans."
PREMIS Link	/	/

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/93608286/Digital+preservation+at+TIB#DigitalpreservationatTIB-Cooperationandnetworks
	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 (sections TBA)
			https://urn.fi/urn:nbn:fi-fe2025040925236 (sections V10, V14, V69, V80, 6.2.2, 7.1)
Archivematica	Digital preservation system	English	https://www.archivematica.org/en/community/resources/