

Dear participant of the Workshop,

We are very pleased you have expressed interest for our Workshop on the Dutch approach for distributed Services for Digital Preservation, to be held 28th September in Kyoto.

In the Workshop we will spend some time on theory, and a lot time on practice. We will try to give you some hands-on experience on articulating Demand and Supply of Services. The Workshop is designed to be interactive, with ample opportunities for discussion.

This Reader can be used to prepare yourself for the Workshop. Preparing yourself will enhance the quality of the Workshop.

Please take your copy (paper or digital) of this Reader to Kyoto. We will have a limited number of paper copies available in Kyoto, and some USB sticks with this reader in PDF format. This reader can also be downloaded from the site of iPRES 2017.

In the Workshop exercises we will use 3 Building Blocks (Training, e-Depot, and Storage), marked orange on pages 4 and 5, to bring more focus in the discussions.

The English summary of our research on developing the Building Blocks can be found on our website http://ncdd.nl/site/wp-content/uploads/2014/06/summary_NCDD_research_DEFWEB.pdf.

And finally: the Short Paper on this subject we will present at iPRES 2017 was sent to you as a separate attachment.

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We are looking forward to meeting you in Kyoto !

The facilitators of the Workshop

name	function	e-mail
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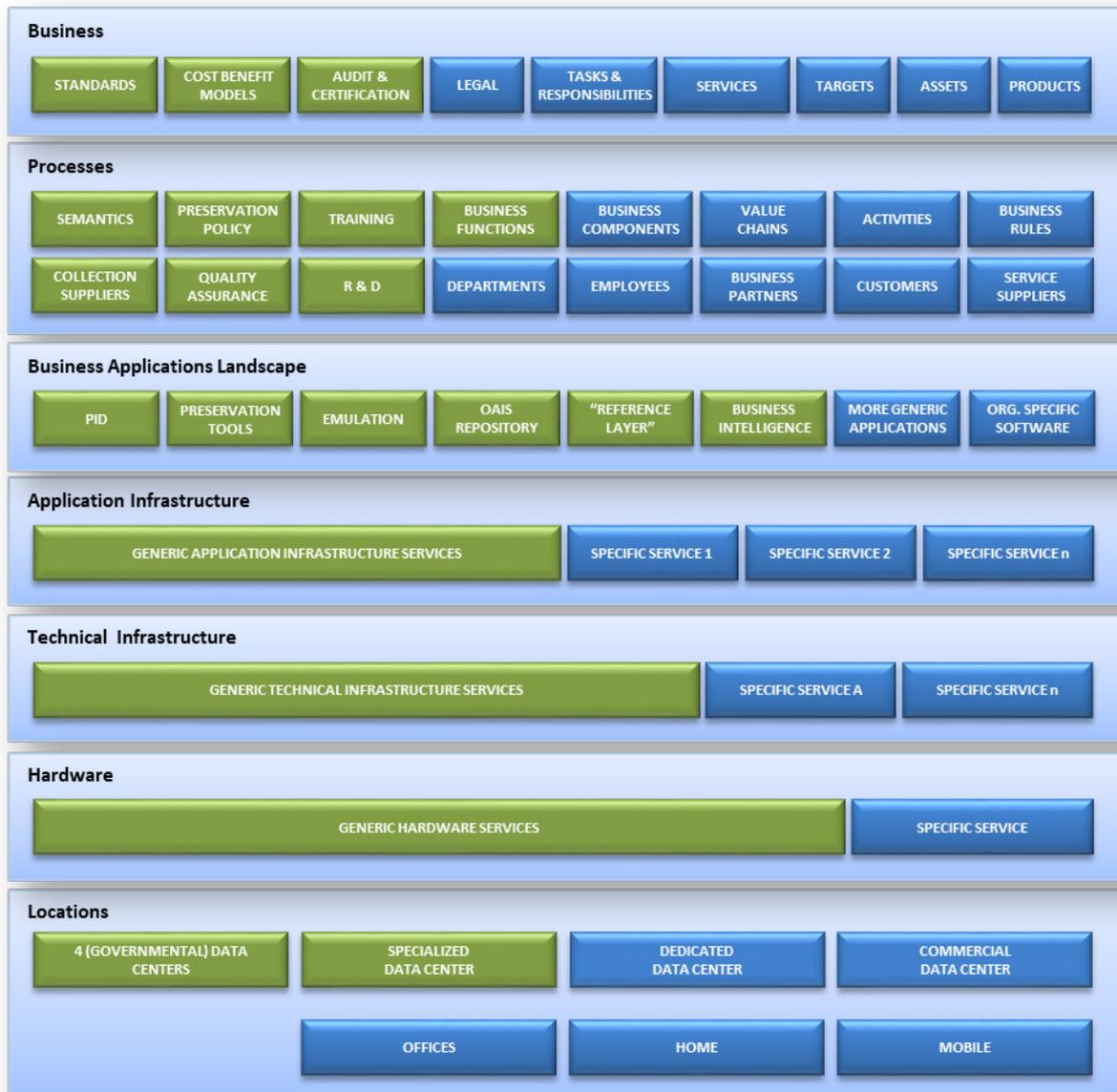
Please do not hesitate to contact one of us for further information !

The Programme of the Workshop

1. Introduction.....	00:35
Explanation of the programme of the Workshop	
The underlying concepts of “distributed facilities for digital preservation”	
2. Maturity exercise (Charles Dollar & Lori Ashley, DPCMM).....	00:25
Explanation of exercise	
Answer questions on handout, individually	<i>Handout</i>
Plenary discussion of results	
3. Dutch examples.....	00:10
4. Demand & Supply articulation exercise.....	01:20
Explanation of exercise	
Divide participants in 6 groups (3 Supply, 3 Demand)	
Short introduction participants within their group	
Choose 1 organisation per group (real or fantasy)	
BREAK	00:10
4A. Formulate SHORT and LONG-term DEMAND	<i>Handout</i>
4B. Formulate SUPPLY + improvement actions required	<i>Handout</i>
Plenary discussion of results	
5. Wrap up.....	00:20
Summing up of lessons learned today	
Plenary discussion of results / application to own organisation	
Evaluation of Workshop	<i>Handout</i>

Background information on the “Building Block” model

The Building Block model for long term digital preservation



The building blocks in this model together make up the infrastructure for long term digital preservation of digital objects.

The **green** Building Blocks are the ones that are potentially shareable within a network or a collaborative effort (as a service, or as a facility *). The **blue** ones seem by definition organisation specific.

On the next pages, we describe the green building blocks, *and give some examples.*

* from: "Doelarchitectuur Digitale Duurzaamheid (2012)" (= Target Architecture Digital Preservation) translated from Dutch:

The operation of an organisation is seen as a **collection of services, executed as a facility.**

A **service** is a well-defined output of a person or an organisation (the service provider), that accommodates a need of its environment (the customer) (source: NORA 3.0 Principles of cooperation and provision of services, 2010). A service can be aimed on customers inside or outside the organisation.

A **facility** is a joint effort of people, processes, applications and systems that provides one or more services under a common denominator.

Services and facilities are two sides of the same medal and are therefore easily mixed up. The difference is that a service is about the "what" and a facility is about the "how"...

Background information on the “Building Block” model

BUSINESS	Explanatory note
1. Standards	Standards are needed to ensure interoperability. This product or service should offer expertise and support to other organisations with the application and implementation of standards for digital preservation. <i>See e.g. http://www.dpconline.org/handbook/institutional-strategies/standards-and-best-practice for more information, examples and more resources.</i>
2. Cost – Benefit models	Proper Cost – Benefit models enable organisations to define and plan digital preservation, to control it by making predictions on different cost levels, and to compare / benchmark their cost levels. This product or service should offer expertise and support to other organisations with the application and implementation of Cost – Benefit models within their own organisation. <i>See e.g. the 4C project (Collaboration to Clarify the Costs of Curation) at http://www.4cproject.eu/</i>
3. Audit & certification	When an organisation relies on services or facilities of other organisations for (part of) their digital preservation, Certification of these services ensure the compliancy with a standard. Certification exists on different levels: Self assessment, Data Seal of Approval, DIN, and ISO. This product or service should offer expertise and support to other organisations with the application and implementation of Audit & Certification with regard to digital preservation. Audits are an instrument to measure the compliancy against a given standard. <i>See e.g. http://www.dpconline.org/handbook/institutional-strategies/audit-and-certification for more information on Audit & Certification with regard to digital preservation.</i>
PROCESSES	Explanatory note
4. Training	Training is key to an organisation wide proper practice of digital preservation. This product or service should offer training to other organisations to increase knowledge, competences, and abilities in digital preservation within a domain or an aspect. <i>See e.g. the “Preservation Training For Audio visual Collections” of the Dutch Institute for Sound & Vision https://www.beeldengeluid.nl/en/node/10770.</i>
5. Research & Development	“Digital preservation” is in constant development, both at the technological level as in insights and the application thereof in the field. This product or service should offer expertise and support to other organisations to <ul style="list-style-type: none"> • enable them to make a contribution themselves, or • to make use of the results of the R&D of the service provider. <i>E.g. small(er) organisations taking part in a R&D project of a big(ger) organisation, or in a EU project.</i>
6. Quality assurance	Quality assurances enhances trust, in different layers: of the digital curation organisation, of the digital curation business function, and of the preserved data. Quality assurance has many faces; it can be a full Quality System (ISO-9001), Quality Procedures, or tools for technical checks. This product or service should offer expertise and support to other organisations to enable them to develop and implement Quality assurance. <i>ISO 15489-1:2016 applies to the creation, capture and management of records regardless of structure or form, in all types of business and technological environments, over time.</i> <i>ISO 9001:2015 specifies requirements for a quality management system, ISO/TS 9002:2016 provides guidance on the intent of the requirements in ISO 9001:2015, with examples of possible steps an organization can take to meet the requirements.</i>
7. Preservation Policy	Organisations that keep (digital) collections usually have a Collection Policy that gives direction to what is in the collection and why. Based on this, an organisation must have a Preservation Policy that gives direction as to how the collection will be preserved to guarantee long time access. This product or service should offer expertise and support to other organisations to enable them to develop and implement its Preservation Policy. <i>See for more information: http://www.dpconline.org/handbook/institutional-strategies/institutional-policies-and-strategies, and for a list of published Preservation Policies: http://wiki.opf-labs.org/display/SP/Published+Preservation+Policies</i>
8. Business Functions	Tasks of an organisation can be translated into “business functions”. Here we refer to the group of functions an organisations uses for digital preservation. Examples are: <ul style="list-style-type: none"> • Inspection of SIP’s • Check quality of SIP’s • “Preservation watch” • Extract (automated) meta data from information objects • Appraisal & Selection • AIP integrity and authenticity check • Format transformation <i>See APARSEN, WP21 (http://www.alliancepermanentaccess.org/wp-content/uploads/sites/7/downloads/2014/06/APARSEN-REP-D21_1-01-2_1_incURN.pdf) for more.</i> This product or service should offer expertise and support to other organisations to <ul style="list-style-type: none"> • enable them to develop and implement these functions within their own organisation, or • for those that cannot execute these functions themselves, use the functions of the provider. <i>See Records Management Masterclass: Appraisal and Selection of the UK National Archive http://www.nationalarchives.gov.uk/information-management/training/appraisal-course/</i>
9. Collection Suppliers	Any form of coordination between collection keeping organisations on who keeps what . <i>No examples yet, in the Netherlands.</i>

Background information on the “Building Block” model

10. Semantics	Any form of coordination between parties involved in forming, keeping, giving access to collections to make agreements on, and standards for the structure and content of the meta data of the objects. In the Netherlands there is ad hoc coordination, usually within one domain (e.g. archives), but not structural, not surpassing domains (e.g. archive, library, science, sound & vision, culture). <i>No examples yet, in the Netherlands.</i>
SOME BUSINESS APPLICATIONS	Explanatory note
11. Persistent Identifier	Each and every digital object that is to be digitally preserved should have a Persistent Identifier (PID), a unique and permanent reference. This product or service should offer expertise and support to other organisations to <ul style="list-style-type: none"> enable them to develop and implement a PID (service) within their own organisation, or for those that cannot execute these functions themselves, use the PID (service) of the provider. See http://www.dpconline.org/handbook/technical-solutions-and-tools/persistent-identifiers for more information and different suppliers of PID services.
12. Preservation Tools	There are many tools in the digital preservation domain. This product or service should offer expertise and support to other organisations <ul style="list-style-type: none"> to find and apply these tools within their own organisation who are not able to find these tools to use the tools of the provider. See e.g.: http://coptr.digipres.org/Category:Function Topics e.g.: <i>Content profiling, De-duplication, File format identification, OCR, Repair, Secure deletion.</i>
13. Emulation	Emulation is a strategy to be able to access or run original data/software on a new/current platform by running software on the new/current platform that emulates the original platform. This product or service should offer expertise and support to other organisations to give access to outdated (obsolete) information objects. See e.g. <i>The Emulation Working Group of nestor</i> wiki.dnb.de/pages/viewpage.action?pageId=120326579
14. The OAIS-compliant database (e-Depot)	The system and all its applications for digital preservation. Please note that a system is regarded as the whole of supporting ICT, processes, organisation and people that services the digital preservation of information objects (from Ingest up to Access). ICT is an important part, but the implementation and keeping it in operation is a BIG project. This product or service should offer expertise and support to other organisations to choose and implement an e-Depot within their own organisation (either as a service, or as its own operation). <i>In the Netherlands, the National Archive is deploying its e-Depot in a 2-tier solution. Twelve “Regional Historical Centres” can service 450+ local archives, ranging from provinces, municipalities, to water authorities, and even private collections.</i>
15. Reference layer	Fits into the Strategy of the Dutch Digital Heritage Network, the 3-layer model Visible, Usable, Sustainable. See http://www.den.nl/art/uploads/files/Publicaties/20150608_Nationale_strategie_digitaal_erfgoed_Engels.pdf This would be a generic service that would enable collection keepers in the layer Sustainable to feed meta data on objects stored in the layer Sustainable to the layer “Usable”. <i>Future.</i>
16. Business Intelligence	<i>Future too.</i> If and when distributed services are used on a large(r) scale, then management information is required. If only to have comparable use-statistics.
ICT	Explanatory note The building blocks in ICT are facilities or services that can be provided to small(er) organisations. At a price, or free. Expertise (“best practice”) is another way of assisting or sharing.
17. Application infrastructure	“On top” of the technical infrastructure is the application infrastructure. In this infrastructure application and web servers are connected with databases. An organisation can outsource (part of) its applications and data to such an infrastructure. Here we specifically refer to offering an application infrastructure to another organisation as a service (“hosting”).
18. Technical infrastructure	On machines with an operating system, attached to networks a technical infrastructure is implemented, amongst which storage facilities and access management. Here we specifically refer to services for storage of digital data (“bit preservation”). Which in itself, by the way, is not a guarantee for digital preservation / long term access. E.g. http://duracloud.org/ offers a “broker” service between organisations and cloud services like Amazon Web Services and others. <i>The Dutch Institute for Sound & Vision offers a “bit preservation” service, but with this service no long-term accessibility guarantee is given. Their full preservation service does have this guarantee.</i>
19. Hardware: e.g. Back up	Back up is an essential part of IT. It is, of course, only “bit-preservation” and not full fledged digital preservation. Often back ups are stored in twofold; one on the premises and on off premise. Here the service is the off premise back up. E.g. <i>the Dutch Koninklijke Bibliotheek and the Institute for Sound & Vision keep each others off premise back up. LOCKSS would be another example (see www.lockss.org).</i>
20. 4 Governmental data centres	The Dutch development to store all (central) governmental data that are created, modified, and long-time kept, in 4 data centres.
21. Specialised data centre	A data centre specialised in a domain. E.g. <i>the Dutch Institute for Sound & Vision, http://www.beeldengeluid.nl/en or the National Film & Sound Archive of Australia, www.nfsa.gov.au/.</i>

The orange building blocks are used in this workshop, to bring more focus.

Hand out for part 2 – Assess Maturity (Individual exercise)

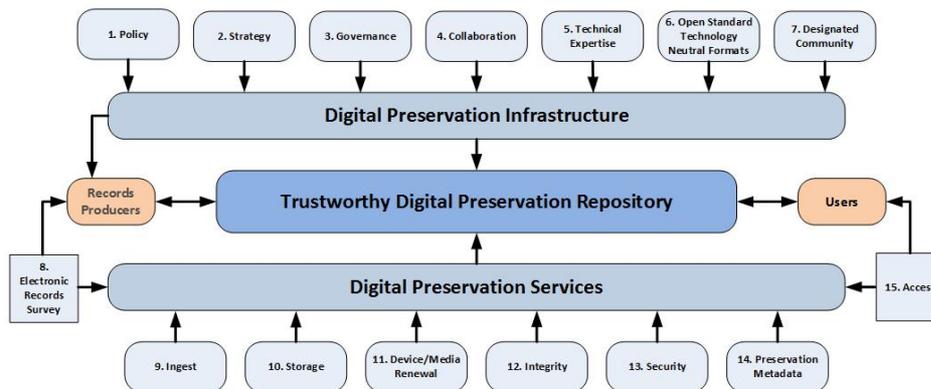
Instructions:

- A. Please do not spend more than 10 minutes to complete the exercise.
- B. Please rate yourself / your organisation on 15 elements in the table below.
- C. Discussing and rating of all these elements is not feasible in this workshop, but a quick way can be to assign (on a “gut feeling”) a mark between “0” and “4” for each of the 15 elements. The mark indicates to what extent your organisation is able to address the challenges. **A “0” is non-existent, a “4” is optimal level....** Please see also the *disclaimer* on the last page.
- D. If you are not sure what a particular element is about, your score is probably “0” or “1”....
- E. On the next pages, you will find a short description of the terms used. **Please use this as a quick reference only. There is no need (and no time) to read everything.**
- F. Please add up the scores and a guesstimate of the capability level comes out:

Capability Level	Index Score Range
Nominal Digital Preservation Capability	0
Minimal Digital Preservation Capability	1 - 15
Intermediate Digital Preservation Capability	16 - 30
Advanced Digital Preservation Capability	31 - 45
Optimal Digital Preservation Capability	46 - 60

Charles Dollar & Lori Ashley published “Digital Preservation Capability Maturity Model© (DPCMM), Background and Performance Metrics” version 2.7 July 6th 2015. See <https://static1.squarespace.com/static/52ebbb45e4b06f07f8bb62bd/t/55a7ed87e4b016f840ba1adb/1437068679137/DPCMM+Background+and+Performance+Metrics+v2.7+July+2015.pdf>

They distinguish 15 elements that together make or break the trustworthiness of a digital preservation repository:



ELEMENT	MY RATING (mark “0” – “4”)
1. Digital Preservation Policy	
2. Digital Preservation Strategy	
3. Governance	
4. Collaboration	
5. Technical Expertise	
6. Open Standard Technology Neutral (“OS/TN”) Formats	
7. Designated Community	
8. Electronic Records Survey	
9. Ingest	
10. Archival Storage	
11. Media/Device Renewal	
12. Integrity	
13. Security	
14. Preservation Metadata	
15. Access	
TOTAL:	

Hand out for part 2 – Assess Maturity (Individual exercise)

1. DIGITAL PRESERVATION POLICY

The organization charged with ensuring preservation and access to long-term and permanent legal, fiscal, and/or historical records should state its policy in writing, communicate the policy to all stakeholders, and periodically audit the policy for compliance. The policy should include the purpose, scope, accountability, and approach to the transfer of records as well as address the operational management and sustainability of trustworthy preservation repositories.

2. DIGITAL PRESERVATION STRATEGY

The organization charged with the preservation of long-term and permanent electronic records must proactively address risks associated with technology obsolescence. While no single strategy is appropriate for all organizations, data types and resources, there must be plans to periodically upgrade storage devices, storage media, and file formats.

3. GOVERNANCE

The organization has a formal decision-making framework that assigns accountability and authority for the preservation of electronic records with long-term and permanent historical, fiscal, operational or legal value, and articulates approaches and practices for preservation repositories sufficient to meet stakeholder needs.

4. COLLABORATIVE ENGAGEMENT

Digital preservation is a multi-faceted discipline that takes into account the organization's information architecture and technology environment as well as accepted standards and best practices. An organization with a mandate to preserve electronic records is well served by maintaining and promoting collaboration among its many stakeholders.

5. TECHNICAL EXPERTISE

A viable digital preservation capability requires organizations to have sufficient expertise in electronic records management and digital preservation to support all of the infrastructure and requisite key preservation processes, including on-going professional development for personnel and certification of the repository. Technical expertise may exist within internal or contracted staff, may be provided by a centralized service bureau, or by external service providers.

6. OPEN STANDARD TECHNOLOGY NEUTRAL FORMATS

A fundamental requisite for a sustainable digital preservation program that ensures long-term access to usable and understandable electronic records is mitigation of obsolescence of file formats. Open standard technology neutral ("OS/TN") formats are developed in an open, public setting, issued by a certified standards organization, and have few or no technology dependencies.

7. DESIGNATED COMMUNITY

The organization that has responsibility for preservation and access to long-term and permanent legal, operational, fiscal or historical government records is well served through proactive outreach and engagement with its Designated Community. The organization has written procedures and formal agreements with Records Producers that document the content, rights, and conditions under which the preservation repository will ingest, preserve, and provide access to electronic records. The organization maintains written procedures regarding ingest of electronic records and access to its digital collections.

8. ELECTRONIC RECORDS SURVEY

All public and private organizations are responsible for records created, received or acquired that are evidence of its business activities, regardless of the format or media used. They have an obligation to ensure the authenticity, integrity, usability and reliability of the records for as long as they are required. A preservation repository cannot fully execute its mission or engage in realistic digital preservation planning without a projected volume and scope of electronic records that will come into its custody.

9. INGEST

A preservation repository that conforms to ISO 14721 functional specifications and associated best practices supports the "essential properties" of SIPs, AIPs, and DIPs. It systematically accepts SIPs from Records Producers, moves the SIPs to a staging area where several content and format validations occur, transforms electronic records into designated preservation formats as appropriate, extracts metadata from SIPs and writes it to Preservation Description Information (PDI), creates Archival Information Packages (AIPs), and transfers the AIPs to the repository's storage function.

Hand out for part 2 – Assess Maturity (Individual exercise)

10. ARCHIVAL STORAGE

The ISO 14721 open archival information system reference model delineates a number of systematic automated storage services that support receipt and validation of successful transfer of AIPs from ingest.

11. DEVICE/MEDIA RENEWAL

There is no known digital device or storage medium that is invulnerable to decay and obsolescence. A foundational digital preservation capability for an organization that has the responsibility to preserve electronic records of long-term and permanent value is ensuring the readability of the bit streams underlying the electronic records.

12. INTEGRITY

A key capability in conforming ISO 14721 preservation repositories is ensuring the integrity (“fixity”) of records in its custody.

13. SECURITY

Digital preservation requires processes that restrict access to the physical repository where digital content is stored, ensure the security of electronic records through techniques that block unauthorized access, protect the confidentiality and privacy of records and intellectual property rights, support periodic backup of electronic records that are stored at offsite storage repositories, and support disaster recovery and business continuity.

14. PRESERVATION METADATA

A preservation repository collects and maintains metadata that describes preservation actions associated with custody of permanent electronic records including an audit trail that documents preservation actions carried out, why and when they were performed, how they were carried out and with what results.

15. ACCESS

The purpose of digital preservation is to ensure that usable, understandable, and trustworthy electronic records are accessible as far into the future as may be necessary, subject to any restrictions imposed by the Records Producers.

Disclaimer:

Discussing and rating of all these elements is not feasible in this workshop, but a quick way can be to assign (on a “gut feeling”) a mark between “0” and “4” for each of the 15 elements. The mark indicates to what extent your organisation is able to address the challenges of securing the element within your organisation.

Further analysis would be needed to establish where strengths and weaknesses are located, where, what and when to improve et cetera. But the overall mark gives us a clue !

You can take the full Digital Preservation Capability Self Assessment Survey © on this site:
<https://sites.google.com/site/savingthedigitalworld2/surveys-and-research/digital-preservation-self-assessment-survey>

Services and different Means

Demand and Supply in assistance with Services for long term digital preservation meet each other in a great variety of shapes, forms and sizes. Paid and unpaid. Incidental or structural.

One way of structuring this is making a division in:

1. *Products & Services*

They could be grouped in a Services Catalogue. Examples are the Provision of digital services (e.g. simple storage, or a full e-Depot), Consultancy services, the Management of outsourced archives.

2. *Instruments*

Experience and knowledge of an organisation that comes in the form of practical, usable instruments. Examples are Scans, Guidance in Appraisal and Selection, Guidance in Substitution, Guidance in applying meta data standards.

3. *Knowledge*

Available knowledge on specific topics within an organisation that can be shared.

Products & Services	Instruments	Knowledge
digital service	scan	orientation
digital facility (1 or more services)	practical guidance	guidance
sharing	road map	expert group
education / training	pilots & projects	examples
consultancy	monitor	expertise
learning environment	scoring model (maturity)	agreements, standards & guidelines
	cost - & benefit model	knowledge platform
	bench marking	
	audit	

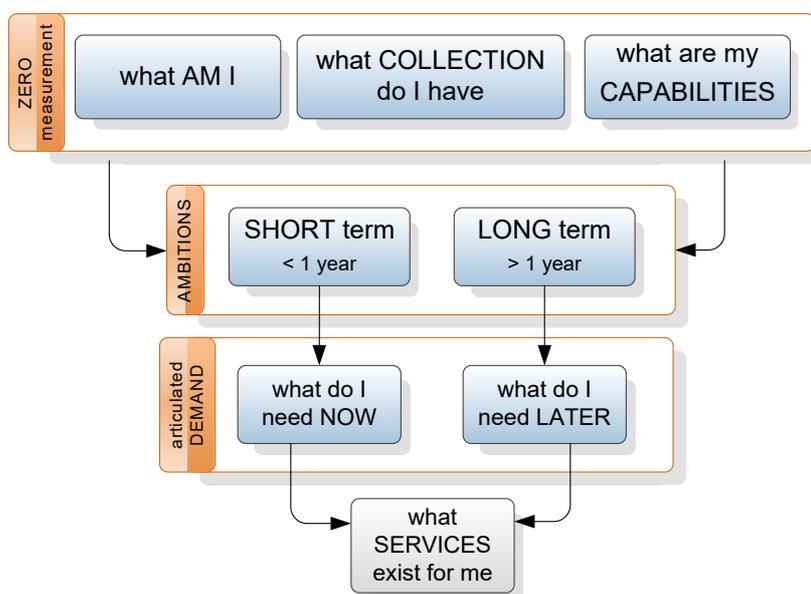
Please note that Services can be grouped in more than one column.

In the exercises 4A and 4B (articulating Demand, articulating Supply) this list can be helpful to determine what kind of Services are demanded or supplied.

Hand out for part 4A – Articulate Demand (exercise in sub groups)

Instructions:

- Please use 5" to introduce yourselves to each other.
- Then, please use max. 5" to select one organisation from one of the participants in your workgroup, or together make up a fantasy organisation that looks like a real one.
- We then have a break of 10".
- Try to find answers together on the questions below for the Building Block assigned to your break out group (one of Training, e-Depot, or Storage).
- The detailed questions (with the numbers) are **examples** only, you do not have to answer them all. If you have better questions with good answers, that's OK !
- Ideally, you would end up with 3 – 4 realistic goals for the short term, and 3 – 4 realistic goals for the longer term. Please write these goals on a large sheet of paper, in large text.



What Am I ?

- domain: Archive, Library, Heritage, Science & Arts, Sound & Vision, Digital Art et cetera.
- mission of the organisation
- number of employees, qualified by (full time vs. volunteers, different functions, competences,
- budget (total, for digital preservation,
- Collection Policy
- Year Plan
- ???

What COLLECTION / DATA do I have ?

- kind of collection (i.e. analog vs. digital / digitised)
- numbers
- size (in Gb / Tb)
- formats (PDF / JPG / TIFF / AVI / MPx / et cetera)
- existing suppliers (producers) of collection / data
- existing customers (users) of collection / data
- ???

Hand out for part 4A – Articulate Demand (exercise in sub groups)

What are my CAPABILITIES ?

Depending on if (1) your group chooses to use one of the group members organisation, or (2) you make up a “fantasy” organisation, you should place this organisation in one of the 5 Capability groups:

Capability Level	Index Score Range
Nominal Digital Preservation Capability	0
Minimal Digital Preservation Capability	1 - 15
Intermediate Digital Preservation Capability	16 - 30
Advanced Digital Preservation Capability	31 - 45
Optimal Digital Preservation Capability	46 - 60

The level you choose has great influence on the feasibility of your organisation to realise your ambitions.

In other terms: if your Capabilities are on the lower end of the scale, do not reach for the sky.
Keep your ambitions, and thus what your Demand is, REALISTIC.

What are my AMBITIONS ?

1. For the SHORT term.

Examples:

- (a) keep our data findable,
- (b) no more intruders in our repository,
- (c) apply correct meta data to our digital objects.

2. For the LONG term.

Examples:

- (d) our employees understand “digital preservation”,
- (e) we will be a trusted digital repository in 5 years from now,
- (f) we have a Preservation Policy & -Strategy.

What is my DEMAND ?

1. What is my demand NOW ? Try, given the outcomes of the zero measurement, to formulate realistic goals for the short term (say 6 – 12 months maximum).

Examples relating to Ambitions above:

- (a) introduction of Persistent Identifier,
- (b) a Security advisor,
- (c) training in use of meta data.

2. What is my demand LATER ? Try, given the outcomes of the zero measurement, to formulate realistic goals for long(er) term (say start as of 1 year from now).

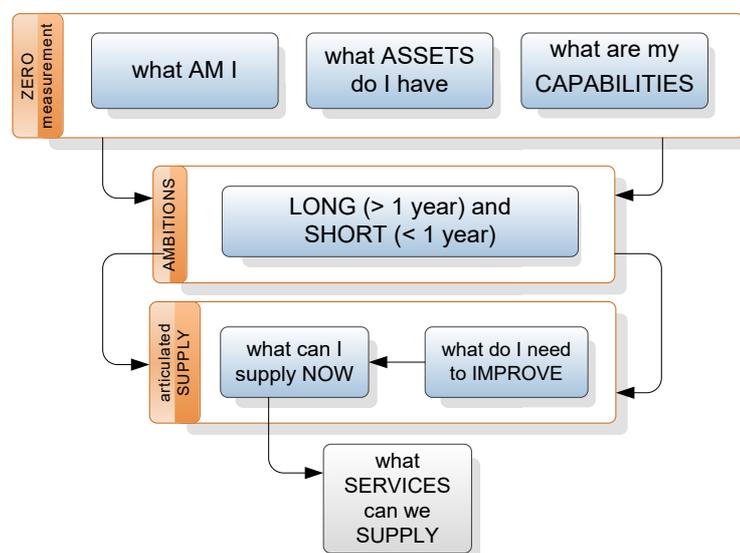
Examples relating to Ambitions above:

- (d) a learning environment for personnel,
- (f) help to make a Roadmap to ensure trustworthiness of our repository,
- (g) help in formulating a Preservation Policy & -Strategy for our organisation.

Hand out for part 4B – Articulate Supply (exercise in sub groups)

Instructions:

- Please use 5" to introduce yourselves to each other.
- Then, please use max. 5" to select one organisation from one of the participants in your workgroup, or together make up a fantasy organisation that looks like a real one.
- We then have a break of 10".
- Try to find answers together on the questions below for the Building Block assigned to your break out group (one of Training, e-Depot, or Storage).
- The detailed questions (with the numbers) are **examples** only, you do not have to answer them all. If you have better questions with good answers, that's OK !
- Ideally, you would end up with 3 – 4 realistic Services for the short term. Please write these Services on a large sheet of paper, in large text. And you would have 3 – 4 Actions for improvement. Please write them down also.



What Am I ?

- domain: Archive, Library, Heritage, Science & Arts, Sound & Vision, Digital Art et cetera.
- mission of the organisation
- number of employees, qualified by (full time vs. volunteers, different functions, competences,
- budget (total, for digital preservation,
- Year Plan
- ???

What Assets do I have ?

- What do you offer ?
- Do you have a *Product- Services Catalogue* ? (e.g. Provision of digital services, Consultancy services, management of outsourced archives)
- What *Instruments* do you have (e.g. Scans, Guidance in Appraisal and Selection, Guidance in Substitution, Guidance in applying meta data standards) ?
- What *Knowledge* you have can be shared ?

What are my CAPABILITIES as a Service supplier ?

Please scan the focal points / concerns below. The list is to give you some ideas.

You do NOT need to address them all !

Hand out for part 4B – Articulate Supply (exercise in sub groups)

- A. Customers:
 - 1. Do I know my (potential) customers ?
 - 2. Do they know me ?
 - 3. How do I communicate with them (Click, Call, or Face ?)
- B. Organisation:
 - 1. Do I have a Services Mission – Strategy – Policy – Goals – Plan ?
 - 2. Do I have a Service organisation ? Or do I render my services on an ad-hoc basis ?
 - 3. Does the Service Organisation have a Front- and Back Office ?
 - 4. How does the Service Organisation relate to existing departments (Tasks and Functions per department) ?
- C. Staffing
 - 1. What competences do I need for the Service Organisation ?
 - 2. Do I have the necessary qualified staff ?
 - 3. Can I scale up & down with the required number of staff ?
- D. Governance / management
 - 1. Internally
 - 2. With Users
 - 3. With my own Suppliers
- E. Finance
 - 1. Do I have a business model (Cost & Benefit !) for the Service Organisation ?
 - 2. What types & quantities of budgets are available ?
- F. Internal information services / ICT
 - 1. Is my internal ICT OK for rendering Services ?
 - 2. Is it Secure ?
- G. Legal aspects
 - 1. Is my organisation in a position to render Services (no legal or regulatory compliance issues) ?
 - 2. Do I have proper contracts with Users ?
 - 3. Do I have Service Level Agreements ?
- H. Certification
 - 1. Are we certified for our Services ?
 - 2. If yes, at what level (DSA, DIN, ISO) ?

What are my AMBITIONS ?

- 1. For the SHORT term.
Examples: (1) provide Storage, "Bit preservation" only, (2) provide Consultancy on Meta data for Museums on an ad hoc basis.
- 2. For the LONG term.
Examples: (3) provide a Trusted Repository for documents, (4) be the (inter)nationally acknowledged Centre of Excellence on the preservation of Digital Art.

What do I need to IMPROVE ?

Look again at the CAPABILITIES section, and try to find some aspects of the Service Organisation that would need improvement.

What can I supply NOW ?

Try, given the outcomes of the zero measurement, to formulate realistic Services you could provide for the short term (say 6 – 12 months maximum).