

The Case for Nationally Recognised Technical Specifications for Digitisation in New Zealand

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The information and records management (IRM) sector

Central and Local Government agencies have a key responsibility to preserve and make records that reflect our history and identity publicly available: their collections trace events and decisions that shape our nation and the lives of Kiwis. Further, as outlined by Archives New Zealand Te Rua Mahara o te Kāwanatanga (ANZ), information and records are key strategic assets at the core of public sector business and government accountability.

I contend there are some key areas warranting review and action, particularly the current lack of clarity regarding New Zealand digitisation standards. This is an area I have advocated for since my early involvement in developing a national standards framework in 1996. The present ambiguity surrounding digitisation standards has far-reaching consequences across the IRM sector, most noticeably when circumstances change. For example, digital objects that have not been digitised according to best practices (those that guarantee long-term preservation) experience downstream implications when intentions evolve.

This paper calls for a cohesive, national approach to the technical specifications contained within digitisation standards and guidelines in Aotearoa New Zealand. This will help ensure our national record is properly preserved and accessible long into the future.

In this context, records are considered any information, regardless of form and format, from documents through to data. Records serve both as evidence of business activity and as information assets. A record includes related metadata, which is also managed as a record. Information and records help organisations plan for and achieve outcomes that benefit businesses, government, and the wider community.

Archives NZ produced the [Information and Records Management \(IRM\) Standard \(July 2016, V1.0\)](#), issued under section 27 of the [Public Records Act 2005](#), that describes how to manage information and records efficiently and systematically. It sets out the minimum level of compliance that organisations must meet.

The Public Records Act establishes the Chief Archivist as an independent information regulator within the government. In this role, the Chief Archivist and Archives New Zealand have a responsibility to support, monitor, and direct the public sector to facilitate compliance with information management requirements. These requirements are supposedly set out in the *IRM Standard*.

While this standard is designed to support organisations to meet their obligations under the Public Records Act 2005 (the Act), the major focus of the standard is to support effective information and records practices in complex business and government environments. Meeting the standard enables organisations to manage their information assets in a holistic, integrated manner. The standard should be read in conjunction with instructions, directions, and any other guidance under the Act.

However, across the IRM sector, unique and diverse analogue collections are physically deteriorating through age, continual use, inherent format instability, or have simply become inaccessible due to the technological obsolescence of their playback equipment. They might even be in danger of being misplaced, lost, or un/wittingly disposed of. Agencies therefore must consider a preservation-driven or access-driven digitisation program that ensures citizens and organisations have continued (online or physical) access to records and archives so they can better understand their heritage, wairua, and democracy. To achieve this a set of consistent technical specifications pertaining to digitising corporate or business or historical records will be an integral requirement. However, the IRM sector is under-served in this regard.

While the workflow process and considerations provided by Archives New Zealand are detailed and expert, advice regarding the technical specifications is scant or noticeably absent. This is important: if clear digitisation and metadata standards are not established, there is a risk that the digital files created today will not be good enough in the future. Conversely, organisations may spend precious time and funds applying standards that exceed requirements. Over the years many in the sector have heard me say, “quality digitisation is so much more than how many pixels per inch, it’s about tonal fidelity.” I am also frequently asked, “what file format should we use for our preservation master files?”. I have long contended there is a need for a digitisation standard that provides sensible and straightforward technical specifications that can underpin fit-for-purpose digitisation.

The purpose of digitisation can be preservation (where you want to retain the digital records in perpetuity) or it can be simply for access (where the digital records simply offer access to information beyond the four physical walls of

the holding repository). The latter can be intended to meet an organisation's community engagement responsibilities — there is demand for the improved availability and access that the internet can provide. This has become particularly important in pandemic times where restrictive lockdowns can mean both staff and other stakeholders cannot access business data or collection material.

I have been involved in standards development since 1996, and 15 years ago I was a member of the sub-committee that drafted New Zealand's first digitisation standard as well its international successors (e.g., ISO 13028).

Archives NZ Continuum Series *S6: Digitisation Standard (2007)*

S-6 ARCHIVES NEW ZEALAND'S STANDARD FOR DIGITISING NON-ELECTRONIC RECORDS FOR RECORDKEEPING PURPOSES AND RETENTION OF NON-ELECTRONIC RECORDS IN ELECTRONIC FORM ONLY.

My firms collaborated with sector colleagues to shape Archives NZ's *Technical Specifications for Digitisation* in 2014 (known affectionately as *TechSpecs*) which, along with the *Digitisation Toolkit*, was the last document to offer technical specifications regarding resolution, bit depth, and file format against common business record types. Neither of these documents are available online now.

Therefore, particularly when reflecting on my earlier efforts in standards development, I find it concerning that in the IRM space NZ does not have a digitisation standard (or even a suite of guidelines) that provides technical specifications. The closest is:

[AS/NZS - ISO 13028:2012 Australian/New Zealand Standard: Information and documentation - Implementation guidelines for digitization of records](#)

Standards NZ defines *ISO 13028* as 'current'— but in fact it has been revoked and replaced by the [Information and Records Management \(IRM\) Standard July 2016](#), issued in July 2016. Nonetheless, *ISO 13028* supports the systematic and efficient management of government information and records, outlining the obligations of regulated organisations under the Public Records Act. Please note *ISO 13028* (which costs \$NZ135 + GST), while providing some excellent guidance pertaining to IRM, specifically excludes technical specifications for digital capture of records (that the *Continuum S6* and the *TechSpecs* did have).

Further emphasising my point, I note that when records managers try to ascertain how to digitise their records, Archives NZ deflects the onus back on the public office/local authority/organisation. An example of this can be found on Archives NZ's website under the section [Digitisation guidance — public offices and local authorities](#):

This means you need to know:

- which records you can and cannot replace with digitised versions
- the criteria and *technical standards* that digitised records need to meet before they can replace the originals.

You'll find this in our digitisation guidance below. This guidance covers both public offices and local authorities.

You should follow the guidance for all records you digitise. You must follow the guidance if you want to replace the original records...

Note the should and must in the final two sentences — vernacular that is typical in international standards. In short, it means the (minimum) technical specifications for digitisation are only mandatory if you are disposing of the originals.

Meanwhile, despite the directives: “the criteria and technical standards that digitised records need to meet”, and “find this in our digitisation guidance below”, the suggested technical specifications are scant and insufficient.

You can find these specifications in the August 2018/revised 2020 advice document ([17/G13 - Destruction of source information after digitisation](#)) and the accompanying October 2017/revised 2020 advice document ([17/Sp7 - Authority to retain public records in electronic form only](#)).

This is a grave weakness because it is unlikely that everyone will reference the *Destruction of source information after digitisation* document — quite simply because not everyone plans to destroy. A consequence of this is that even these minimalist technical standards may not be followed.

Recommended Minimum Technical Specifications

Bit depth		Resolution	File Format	Compression
8 bit	Greyscale or bi-tonal	300 ppi	PDF/A TIFF JPEG 2000	Lossless compression
24 bit	Colour	300 ppi	PDF/A TIFF JPEG 2000	Lossless compression

These technical specifications are applicable to the digitisation of text and photographic prints.

It appears that around the time the IRM Standard was published, Archives NZ removed the last remaining technical detail for digitisation (*Technical Specifications for Digitisation*) which had been part of the *Digitisation Toolkit* in 2016. The only direction from Archives NZ regarding technical specifications is maintaining adherence to *ISO 13028*, and it says:

The standard AS/NZS ISO 13028:2012, Information and documentation – implementation guidelines for digitization of records is recommended guidance for digitisation processes and policies.

Once again, the onus is on the Public Office/Local Authority to sort out specifications. They are not documented.

Some believe the [Archives New Zealand's Records Toolkit site](#) provides the information we need: it is an initiative aimed at getting the information and resources Archives NZ produces to the people who require it. However, even with a section titled *Digital*, as well as the offer to “Find all information management guidance for public offices and local authorities” in an [A to Z list of guidance](#), there is little or no guidance on technical specifications for digitisation amongst a wealth of other really useful IRM knowledge.

Other legislation

It is prudent to understand all relevant legislation when embarking on the digitisation of official records. While the PRA is inextricably linked with the likes of the Official Information Act 1982 (OIA), the Local Government Official Information and Meetings Act 1987 (LGOIMA) and the Privacy Act 2020 (which came into effect 1 December 2020), I believe the Contract and Commercial Law Act 2017 (CCLA) 2017 is important in the context of *TechSpecs*.

Part 4 of the CCLA (sections 207-240) is the modern equivalent of the former Electronic Transactions Act 2002 (ETA). In terms of information and records management practices, it requires those bound by the CCLA to retain paper (or microform) originals unless they have electronic versions that maintain the integrity of the information digitised — e.g., it is a true likeness and it can be accessed reliably now, in perpetuity, or for as long as an organisation's official disposal authority permits.

The CCLA is referenced by 17/G13, which notes its importance, and 17/Sp7 lists the two conditions of CCLA 2017 section 229(1).

CCLA 2017 subsection 229 (2) states:

Subsection (1) applies to information that is a public record within the

meaning of the Public Records Act 2005 only if the Chief Archivist has approved the retention of that information in electronic form.

And subsection (3) states:

To avoid doubt, if information is retained in electronic form in accordance with subsection (1), the paper or other non-electronic form of that information need not be retained.

So, part of conforming to CCLA requirements is the requirement to understand technical specifications pertaining to digitisation.

How about other countries?

United Kingdom

Archives NZ's British counterparts, The National Archives (TNA), offer more detail but also follow an [A to Z on Guidance](#) like Archives NZ. In fact their [2016 Digitisation Guidelines](#) even references Archives NZ's (now withdrawn) *Digitisation Toolkit* and includes a significant amount of their own technical details. Apart from the reference to Archives NZ's Toolkit, it is a substantial and useful document.

Australia

In 2021 The National Archives of Australia (NAA) delivered an excellent, clear, and easy-to-locate web page titled [Digitisation specifications for paper records in agencies](#). They still reference *ISO 13028* for its workflow and process information (e.g., quality assurance) but have gone to great lengths to give the sector clarity on technical specifications for typical record formats.

NAA's guidelines can be compared to those covered by FADGI, albeit scaled down. I recommend using FADGI for guidance in the absence of anything else because there are significant and useful overlaps into the IRM sector.

NZMS recommend [FADGI Technical Guidelines for Digitizing Cultural Heritage Materials 2016: Creation of Raster Image Files](#) as a guiding principle for the work we do for cultural heritage institutions nationwide because, AudioVisual and 3D aside, we feel this best covers the application of Cultural Heritage collection digitisation in NZ.

While FADGI specifications are openly targeted at the cultural heritage sector, NAA have tailored their specifications for the business records of anyone bound by the likes of the Public Records Act. I contend this is exactly what Aotearoa New Zealand needs.

NAA also stick to the mantra we started as far back as 2006 with Archives NZ's Continuum S6: that it is worthwhile having different digitisation technical specifications for items of permanent or non-permanent value:

- If the records are of permanent value, use the digitisation for preservation specifications.
- If the records are not of permanent value, use the business-as-usual specifications.
- If you are digitising a series of records with both permanent and temporary value, and those records will be destroyed after digitisation, the entire series must be scanned in accordance with the preservation specifications. Please consult your agency's information management team if this is the case.

This relates back to my point about fit for purpose digitisation.

In a nice touch, NAA offer a printable quick-reference guide, a two-page document that summarises the [digitisation specifications for paper records](#).

A recommendation and a request for specific guidance from Archives New Zealand Te Rua Mahara o te Kāwanatanga

I argue that Aotearoa New Zealand's information and records management sector is under-served for technical specifications pertaining to digitising records. There is a need (and an opportunity) for our sector leader, Archives New Zealand, to provide more tailored and specific advice to ensure those entrusted with the responsibility can effectively preserve our national record.

Digitisation advice is increasingly sought by people and organisations interested in establishing their own digitisation capability — a common request is for clear information regarding technical specifications for digitisation that is endorsed or provided by our information and records management sector leader. In particular, people anticipate finding this information among the otherwise excellent and expert advice prevalent on Archives New Zealand's website.

There is a simple way forward: firstly, there needs to be emphasis on the

difference between digitising for preservation purposes (where you intend to keep the digital objects in perpetuity) and digitising for access purposes (where the immediate need is to make the information available and the original physical copy is still your preservation master). Thereafter I agree with others I have canvassed in the NZ standards world: we do not necessarily need to publish our own digitisation standards and guidelines. However, I recommend we should routinely review what is available internationally and endorse another country's specifications for use in Aotearoa New Zealand after thorough evaluation. On that note, it is recommended that the sector leader, Archives New Zealand, provides direction.

As a passionate advocate for this approach, I am willing to continue this dialogue and contribute as appropriate to reach a positive outcome for the IRM sector.

What do you think? I am very interested to hear what others think about this topic — please reach out with any feedback so we can continue the conversation.