



16 February 2024

Tēnā koe

Official Information Act request

Thank you for your email of 9 December 2023, requesting information about SWIFTT and TRACE. I have considered your request under the Official Information Act 1982 (the Act).

On 29 January 2024, the Ministry provided a response to part of your request, in particular Question 2. The Ministry also informed you that it needed more time to respond to part the remaining part your request.

On 12 February 2024, the Ministry notified you of its decision to grant in part the remainder of your request, namely the information that relates to the business case for SWIFTT and TRACE Re-Platforming. Thank you for your patience while we have prepared this information for release.

Question 1: The business case for "SWIFTT and TRACE Re-Platforming", as contained in Appendix One of the Cabinet paper "Replatforming Ministry Of Social Development's Benefits and Pension Payment System" (partly published [here](#));

Please see the attached **Appendix Two**, providing the SWIFTT and TRACE re-platform project business case.

Please note that some information is withheld under section 9(2)(b)(ii) of the Act as, if released, it would be likely to prejudice the commercial position of the person who supplied or who is the subject of the information. The greater public interest is in ensuring that the commercial position can be maintained.

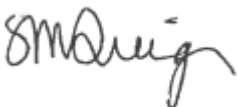
I have also redacted some information as out of scope of your request, following your email of 10 January 2024.

I will be publishing this decision letter, with your personal details deleted, on the Ministry's website in due course.

If you wish to discuss this response with us, please feel free to contact OIA_Requests@msd.govt.nz.

If you are not satisfied with my decision on your request, you have the right to seek an investigation and review by the Ombudsman. Information about how to make a complaint is available at www.ombudsman.parliament.nz or 0800 802 602.

Yours sincerely

pp. 

Magnus O'Neill
General Manager
Ministerial and Executive Services



Out of scope

33 Intellectual Property Rights

33.1 Ownership of existing IP

Each party or its licensors retains ownership of all Intellectual Property Rights in Existing Material and Software belonging to that party or its licensors. DXC acknowledges and agrees that all Intellectual Property Rights in the Crown Data will be owned by the Crown.

33.2 Ownership of new IP

Subject to clause 33.1, all Intellectual Property Rights in all:

- a Deliverables, including all Developed Software commissioned or created specifically for MSD under this Agreement (excluding the Proprietary Software);
- b enhancements, modifications or adaptations to any of MSD's existing material; and
- c other material developed (excluding developments to DXC's Existing Material), commissioned or created under or in connection with this Agreement,

will directly and immediately vest in MSD upon its creation unless otherwise documented in the supporting SoW or SDA.



33.3 Licence to MSD

Notwithstanding clause 33.1 and unless otherwise agreed in an SDA or SOW, DXC grants, or will procure from the relevant head licensor to grant MSD and its Related Parties, for the Term a non-exclusive, sub-licensable, transferable and irrevocable license to exercise only for the purpose of MSD receiving the full benefit of the Deliverables and the Services as anticipated by this Agreement, all Intellectual Property Rights in all Deliverables that are not owned by MSD or otherwise licensed to MSD and its Related Parties under this Agreement. This licence includes the right for MSD and its contractors to use, copy and modify such Deliverables for MSD's statutory functions and purposes.

33.4 Software licences

Notwithstanding clause 33.3 DXC grants or will procure the grant of a licence in respect of the Third Party Software on the terms set out in the applicable SDA or SoW. To the extent that the applicable SDA or SoW expressly provides (with reference to this clause 33.4) for separate licence terms for a Deliverable instead of the licence in clause 33.3 or MSD has expressly approved in writing with reference to this clause 33.4 separate licence terms for a Deliverable instead of the licence in clause 33.3, then those separate licence terms will apply to that Deliverable instead of the licence in clause 33.3. For the avoidance of doubt, any such separate licence terms do not in any way limit DXC's warranties and obligations under this Agreement.

33.5 Licence to DXC

MSD grants DXC a non-exclusive licence to exercise, only for the Term and to the extent necessary to provide the Services and Deliverables, all Intellectual Property Rights provided by or on behalf of MSD under this Agreement unless otherwise documented in the SDA or SoW.

33.6 Title and risk

- a The parties agree that title to, and risk in, any media on which any Deliverable is recorded, will pass to MSD on delivery to MSD, unless otherwise agreed in writing by the parties.
- b Title to each Deliverable that is tangible property will pass to MSD free of any Encumbrance, on payment of the Fees for the Deliverable.
- c Risk in each Deliverable will pass to MSD on delivery to MSD, unless otherwise agreed in writing by the parties.

33.7 DXC warranty as to Intellectual Property Rights

DXC represents and warrants that:



- a it has full right and title to vest Intellectual Property Rights in MSD in accordance with clause 33.7;
- b it is authorised to license Intellectual Property Rights to MSD and its Related Parties in accordance with clauses 33.3 and 33.5;
- c the exercise in accordance with this Agreement of any Intellectual Property Right vested in or licensed to MSD or any Related Party under this Agreement, other than Third Party Software licensed to MSD in accordance with clause 33.4, will not infringe the rights of any Third Party; and
- d it has obtained and/or will make available to MSD and its Related Parties all licences, clearances, consents and authorisations necessary for the use of the Services and Deliverables in accordance with this Agreement.

33.8 Intellectual Property Rights indemnity

- a DXC will fully indemnify MSD against all liability, losses, damages, costs and expenses suffered or incurred by MSD as a result of any Third Party claim or threatened Third Party claim alleging that any of the Services and Deliverables (other than Third Party Software licensed in accordance with clause 33.4), or MSD's or a Related Party's use or possession of any of them, infringes the Intellectual Property Rights of any person ("**IP Claim**").
- b Each party will promptly notify the other party in writing upon becoming aware of any IP Claim.
- c Unless otherwise required by MSD, DXC will control the conduct of any IP Claim and all negotiations for its settlement or compromise but in all cases will:
 - i consult with MSD and keep MSD fully informed of such matters;
 - ii obtain MSD's prior written approval to any proposed settlement or compromise; and
 - iii ensure that MSD's name and business reputation are not adversely affected by any such steps taken.
- d MSD will co-operate with DXC in defending or settling any IP Claim under this clause 33.8 and will endeavour to make its employees available to give statements, information and evidence as DXC may reasonably request.



33.9 DXC must remedy subject of claim

Without limiting clause 33.8, at MSD's request, if any IP Claim prevents or threatens to prevent the supply or exploitation of a Service or Deliverable then DXC must, at the request of and at no cost to MSD or its Related Parties:

- a obtain for MSD and its Related Parties the right to continue the supply or exploitation;
- b modify the Service or Deliverable so it becomes non-infringing; or
- c replace the Deliverable with another non-infringing item,

provided that DXC must ensure that the remedy does not materially affect the Service or Deliverable or MSD's or its Related Parties' exploitation of it. Without prejudice to any right or remedy, MSD may terminate this Agreement if DXC is unable to remedy the IP Claim in accordance with this clause 33.9 within 40 Business Days of MSD's request.

34 Source Material

34.1 Developed Software to be provided in object code form

DXC must provide all Developed Software to MSD in object code form and, unless otherwise specified in a SoW, must also provide MSD with the Source Materials for the Developed Software at the same time.

34.2 Escrow

DXC must, if and to the extent agreed by both parties in writing enter into an Escrow Agreement in relation to the Source Materials of any Software and ensure that the Escrow Agreement:

- a is in a form, and entered into with an escrow agent, approved by MSD; and
- b provides for the deposit by DXC of the Source Materials of the version of all such Software currently being used by MSD; and
- c provides for the release of the Source Materials for the Software by the escrow agent to MSD in the event that any of the release events described in the Escrow Agreement occurs or is threatened to occur.

Out of scope





Schedule 1 Definitions

In this Agreement, the following terms have the following meanings unless the context requires otherwise:

Term	Definition
Out of scope	Out of scope
Agreement	this Master Services Agreement including the Schedules, SDAs and SoWs.
Out of scope	Out of scope



Term	Definition
Out of scope	
Crown	Her Majesty the Queen in right of New Zealand, including all: <ul style="list-style-type: none">a. Ministers of the Crown;b. Government departments;c. Offices of Parliament;d. Crown entities as defined in the Crown Entities Act 2004;e. State enterprises as defined in the State-Owned Enterprises Act 1986; andf. all Eligible Agencies and Participating agencies.
Crown Data	all information relating to the Crown, its business strategies, marketing plans, facilities, systems, technologies,



Term	Definition
	stakeholders, customers, suppliers or Related Parties, Eligible Agencies and Participating Agencies.
Out of scope	
Deliverables	all products, Equipment, Documentation, Software and other materials provided, or to be provided, by DXC under or in connection with this Agreement, including all deliverables set out in a SDA or SoW entered into under this Agreement.
Developed Software	the software developed, created or commissioned by DXC or any other person under or in connection with this Agreement, including the software described as Developed Software in a SoW.
Out of scope	



Term	Definition
Out of scope	
Encumbrance	a security agreement, debenture, mortgage, charge, pledge, lien, title retention, option, right of first refusal, right of pre-emption, any 'security interest' as that term is defined in the Personal Property Securities Act 1999, and any other third party interest of any kind.
Out of scope	

Released under the Official Information Act (1982)



Term	Definition
Escrow Agreement	an arrangement under which DXC deposits the Source Materials of the version of all such Software currently being used by MSD (the Deposit) with an escrow agent, who will store the Deposit in a safe and secure environment.
Existing Material	all documentation, software and other materials used or provided by a party under or in connection with this Agreement that is: <ul style="list-style-type: none">a. owned by, or licensed to, that party prior to the Commencement Date orb. developed independently from this Agreement by that party,c. and that are not developed, commissioned or created under or in connection with this Agreement and including, in the case of MSD, all Crown Property.

Out of scope



Term	Definition
Out of scope	[Redacted]

Proprietary Software	the Software described in a SoW which is owned by DXC or any Third Party.
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Out of scope	[Redacted]
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Term	Definition
Out of scope	
Related Parties	<ul style="list-style-type: none">a. all contractors and service suppliers of MSD who are involved in the provision of the Services and Deliverables;b. any Eligible Agency that enters into a Memorandum of Understanding with MSD that relates to the Services and Deliverables.
Out of scope	
Services	<ul style="list-style-type: none">a. the services described in this Agreement, including in a SDA or SoW;a. all services incidental to, or required for the proper performance of, the services described in (a); andb. all other services agreed in writing by the parties from time to time.
Out of scope	



Term	Definition
Out of scope	
Software	the Developed Software, the Proprietary Software and all other software which is to be provided by DXC to MSD under this Agreement.

Out of scope

Released under the Official Information Act (1982)



Term	Definition
Term	the term of this Agreement described in clause 8.1.
Third Party	each legal entity, company or person that is not MSD, the Eligible Agencies, DXC or a related company of DXC .
Variation	an amendment or change to the Agreement, SoW, or SDA.
Out of scope	



project business case

SWIFTT and TRACE re-platform

7 July 2021

Portfolio	Technology
Sponsor	Out of scope
Technical Product Manager	
Business Owner	
Version	1.0

Document Control

Template 1.6

Document Version

Version	Date	Description	Author
0.1	14/05/21	First draft	Out of scope
0.2	21/05/21	Second draft	
0.3	28/05/21	Third draft with input from IPM, TPO and Strategic Finance	
0.4	04/06/21	Fourth draft with input from IPM, procurement and Technology Portfolio Owner	
0.5	11/06/21	Updates resulting from TDC feedback and workshop with Architecture, IST Leadership, PO, Business and Procurements	
0.6	18/06/21	Full review of business case	
0.7	23/06/21	Update document to reflect feedback	
1.0	1/07/21	Final document	

Document Review

Role	Name and Organisational Role	Date
Project Sponsor	Out of scope TIPO	16/06/21
Technical Product Manager	Out of scope PM SWIFTT and TRACE re-platform	16/06/21
Enterprise Architect	Out of scope Head of Architecture and Emerging Technology	16/06/21
Strategic Finance	Out of scope Manager Strategic Finance; Dermot Owens, Senior Strategic Accountant	16/06/21
IPM	Out of scope Director Integrated Portfolio Management; Out of scope Out of scope Portfolio Management Office	16/06/21
Business Owner	Out of scope Head of Systems and Channel Support	16/06/21

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Released under the Official Information Act (1982)

1.0 Executive Summary

1.1 Purpose

1. This business case is seeking funding and endorsement to enter contractual arrangements with DXC and Spark for the refresh and ongoing support of the SWIFTT and TRACE platforms which were last significantly updated in 2015.

1.2 Project Overview

2. SWIFTT and TRACE are critical applications in MSD's support of New Zealand's Working Age and Superannuation clients. In the 12 months to April 2021, SWIFTT processed 58 million payment transactions worth \$25.6 billion in main benefit assistance (including Superannuation payments) to over 1.2 million New Zealanders. Each business day SWIFTT makes ad hoc payments to over 6,000 vulnerable clients worth over \$4 million.
3. The annual SWIFTT payment transactions equate to over 24% of annual core government expenditure.
4. DXC (Enterprise Services New Zealand) (previously HP Enterprise Services) supplies software support services for business-critical legacy systems SWIFTT and TRACE. DXC provides both the platform and support of the applications under a Master Service Agreement (MSA) contract which ends in June 2022.
5. Much of the platform hardware and software is at the end of manufacturer support from 2022 which puts the platform at increased risk of unpatched bugs, security vulnerabilities, increased likelihood of failure and unplanned outages. The risk the aging platform presents to SWIFTT and TRACE availability is captured under MSD registered risk 2456. This includes:
 - a. Oracle 12C - goes end of support July 2022
 - b. HP (3PAR) storage - on extended support that ends October 2022
 - c. F5 load balancers - on extended support with a 2025 end date
6. By 2022 the current platform has operated for seven years compared with the five-year standard defined by the MSD asset management plan. Attempting to extend the life of the platform past 2022 will increase a risk of platform failure that would prevent MSD from making essential income and superannuation payments averaging over \$500m per week.
7. The replacement platform needs to be resilient, flexible and secure, with enough capacity to accommodate the foreseeable increasing demands of the applications that run on it while allowing headroom for unexpected events such as a pandemic resurgence.

8. Starting in early 2019 MSD investigated options for a new infrastructure platform and considered the following:
 - a) All of Government Infrastructure as a Service (IaaS) hosted
 - discounted due to concerns with performance, cost, and Service Level.
 - b) Near shore public cloud IaaS from Oracle
 - discounted due to MSD privacy and data sovereignty concerns, and a lack of certification with the Australian service.
 - c) Near shore public cloud, with the option for an onshore public cloud appliance from AWS.
 - discounted due to MSD privacy and data sovereignty concerns, and Oracle's stance when supporting its technologies on competing public cloud services
 - d) Onshore VMWare based private platform service / DXC operated
 - supported - delivers commercial and operational outcomes MSD requires
9. Based on the findings above the MSD recommended approach is to use an onshore VMWare based private platform service to deliver the commercial and operational outcomes MSD requires.
10. It is estimated that it will take three months to receive the platform hardware followed by a nine-month project to complete the platform refresh. With a 12 month procure and build timeline, to ensure the platform is ready by July 2022, MSD will need to order the new platform hardware by July 2021.

1.3 Commercial and Financial Summary

11. The project is seeking the following funding to complete the work required and enter into agreements with DXC and Spark. The individual cost components are outlined in a – h below:
 - a. **DXC** – continue current monthly support for SWIFTT and TRACE from September 2021 to May 2022 worth 9(2)(b)(ii) Met by existing OPEX.
 - b. **DXC** - a new 85-month SWIFTT and TRACE support agreement worth 9(2)(b)(ii) from June 2022 to June 2029. The 9(2)(b)(ii) per month rate is fixed until 2027 and is, after adjusting for inflation, comparable to the 2015 monthly rate of 9(2)(b)(ii). This will be met by existing OPEX funding for SWIFTT and TRACE.
 - c. **MSD** – a \$0.5m internal cost for MSD technical support and test resources to assist with the platform refresh. Funded from the IT Capital Baseline.
 - d. **DXC** – 9(2)(b)(ii) for the new platform transition costs. Funded from the IT Capital Baseline.
 - e. **Spark** – 9(2)(b)(ii) to purchase the platform hardware, software, and warranty to August 2026. Funded from the IT Capital Baseline.
 - f. **DXC** – 9(2)(b)(ii) to upgrade the new platform software in 2024-2025 (MTSU). Funded from the IT Capital Baseline.

- g. **Spark** - 9(2)(b)(ii) additional warranty required from September 2026 to support the asset till June 2029. Funded from OPEX funding.
- h. **Spark** - 9(2)(b)(ii) support and maintenance from Sep 2021 to June 2029.

Summary of MSD costs (see Appendix 3 for Whole of Life costs):

Description	Type	Charge	Frequency	Total cost
Current platform (Next Gen) run costs. Start from September 2021 to May 2022 (9 months) Whole of Life costs start when hardware received. This is already funded	OPEX	9(2)(b)(ii)	Per month	9(2)(b)(ii)
New platform (Voyager) support agreement. Start from June 2022 to end of June 2029 (85 months) Note extension in 2028 and 2029 may result in a higher monthly charge.	OPEX	9(2)(b)(ii)	Per month	
MSD internal implementation costs Start July 2021	CAPEX	T&M	Per month	
New platform DXC transition costs. Starting September 2021 to June 2022	CAPEX	T&M	Per month	
New platform hardware purchase costs 9(2)(b)(ii) Sep 2021	CAPEX		One-off	
New platform software upgrade (MTSU) 2024/2025	CAPEX	T&M	Per month	
Additional Warranty of 9(2)(b)(ii) per annum from August 2026 to June 2029	OPEX	9(2)(b)(ii)	Per Month	
Support and Maintenance of 9(2)(b)(ii) per month from Sep 2021 to June 2029 (94 months)	OPEX	9(2)(b)(ii)	Per Month	
Whole of Life costs to MSD				

1.4 Objectives & Benefits

12. The SWIFTT and TRACE re-platform project has the following objectives:

- Refresh the entire SWIFTT and TRACE platform (hardware and software) so that all components operate with vendor support until 2029.
- Deliver a dedicated Disaster Recovery DR environment. Currently DR shares its environment with the Performance Test environment (PERF) used to test releases in a production like environment prior to release.

13. The key benefit for the SWIFTT and TRACE re-platform is to mitigate the risk that aging technology results in a significant equipment failure or unplanned outage that threatens the delivery of essential weekly payments worth \$500m to 1.2M+ clients (see Appendix 1 – Benefit Profile).

14. The new platform will support SWIFTT and TRACE to meet forecast future business driven growth and seasonal demand peaks, on a secure, stable and supported platform, along with improvements for DR switchover, reducing the scheduled downtime required for hardware maintenance and support for the provisioning of additional Test environments.

15. A new Master Services Agreement and a 5 + 1 +1 SOW with DXC will ensure SWIFTT and TRACE are able to operate until such time as their functions are able to move into the MSD future state. The ability to extend for additional years without going back to market provides contingency for the Te Pae Tawhiti timeline.

1.5 Resource Implications

16. This work will almost entirely be done by dedicated third-party DXC resources, with minor involvement from MSD technical teams, CISO and moderate involvement with MSD testing teams as follows:
- **September 2021 to January 2022**- DXC resources build, install, and connect the SWIFTT and TRACE platform into the Trentham and Takanini datacentres. A small amount of MSD middleware design and project management resource will be required to support this effort.
 - **February to June 2022** - DXC will conduct migration, integration, and performance testing of SWIFTT and TRACE. They will also provide support to MSD testers from April 2022.
 - **February (PI 21) to June 2022 (PI 22)** - a small amount of MSD technical resources will be needed to work with DXC to connect the new platform to existing MSD networks:
 - network team estimate eight days over five months
 - middleware resource team estimate five days over five months
 - Security team estimate five days to perform a change certification during March and April 2022
 - **April 2022 to June 2022 (PI 22)** - a moderate amount of MSD testing resources will be needed:
 - functional test team estimate 79 days over three months
 - automated regression team estimate 37 days over three months
 - Integrated performance test team estimate 10 days over one month
17. With DXC carrying out most of the project effort the impact on other projects or priorities should not be significant.

1.6 Timing

18. Key timeframes are set out below (see Section 9.3 for key milestones and dates and Appendix 2 for the SWIFTT and TRACE re-platform Roadmap):
- **September 2021** - the Spark hardware purchase costs of ^{9(2)(b)(ii)} and the ^{9(2)(b)(iii)} DXC transition costs start on receipt of the hardware. For planning purposes, we have assumed CAPEX costs start from September 2021.
 - **February 2022** - most of the MSD internal implementation costs will start in PI 21 and run through to PI 22.
 - **June 2022** - the new platform monthly run charge of ^{9(2)(b)(ii)} will start when the new platform goes live. For planning purposes, we have assumed this OPEX cost starts from June 2022.
 - **July 2024** - Midterm Software Upgrade starts July 2024 to keep platform software current. We have assumed this CAPEX charge starts July 2024.
 - **August 2026** – Additional warranty required for remaining 34 months.

1.7 Business Needs & Impact

19. This business case approach avoids unnecessary redevelopment or modernisation of the applications to better support public cloud platforms, and ensures the ongoing security, reliability, and performance of SWIFTT and TRACE while MSD implements the Te Pae Tawhiti future state.
20. The project does not require MSD change management, training and development or frontline change delivery resources. The project will require MSD change management team involvement in setting and communicating the cutover date to frontline teams.

1.8 Te Pae Tawhiti

21. As part of the Te Pae Tawhiti strategy, MSD is looking to overhaul its technology to meet the systemic changes required at all levels of the welfare system. System failure risks are becoming ever more significant as these current systems age, and we face serious system outages that would disrupt the administration of financial assistance.
22. The strategy is intending to see the eventual replacement of SWIFTT and TRACE, however the transitional process sees it taking five to seven years before these key applications can be retired.
23. During the transition states MSD needs a secure and reliable platform to ensure the ongoing high availability performance of these business-critical applications for as long as they are required. It is imperative these systems remain stable and operational during the transition to enable MSD to focus on the transformational changes.
24. This approach supports the foundational needs, such that redevelopment and modernisation of the platforms can be made to these key business capabilities to better support our delivery of the future operating model, and the Te Pae Tawhiti future state.

1.9 MSD's Commitment to Māori

25. This infrastructure investment will mitigate the risk that the current aging SWIFTT platform fails and prevents or delays the Ministry from making essential income and superannuation payments to over 197,000 Māori clients.

2.0 Signatures

AGREE/ DISAGREE	
Out of scope	<i>DCE/People and Capability</i>
Signature and Date:	Out of scope 12/8/2021
As DCE People and Capability, I agree that the information my area has provided is complete and accurate at the time of signing, with the listed caveats. I agree that the Improvement Systems & Technology Group will deliver what it has agreed to in this business case, and I authorise commitment of funds within my level of delegation.	

AGREE/DISAGREE	
Out of scope	<i>Technology Portfolio Owner</i>
Signature and Date:	Out of scope 2/17/2021
As Project Sponsor I agree that I can deliver the results and deliver/ enable the benefits as described in this business case for the invested stated, with the listed caveats.	

AGREE/DISAGREE	
Out of scope	<i>Chief Financial Officer</i>
Signature and Date:	Out of scope 05/28/2021
As Chief Financial Officer, I agree that the costs and benefits in this business case have been reviewed by Strategic Finance and are complete and accurate. I also agree that this is an appropriate use of MSD funds in the context of the wider financial position for MSD. I also authorise the release of funds, if and when the TIC approves investment of the stated amount of MSD resource for the results and benefits listed in the business case.	

AGREE/DISAGREE	
Out of scope	<i>Transformation Investment Committee Chair DCE Strategy and Insights (Acting Chair at the time in July)</i>
Signature and Date:	Out of scope 7/10/21
As Chair of the Transformation Investment Committee (TIC), I agree to invest the stated amount of MSD resource for the results and benefits listed in the business case. I agree that this item of work is part of the MSD portfolio, is assigned to the Sponsor and will receive oversight from TIC.	

3.0 Strategic Background

26. During the transition to the Te Pae Tawhiti future state MSD needs to continue investing in the SWIFTT and TRACE platform to ensure it is able to provide a secure, reliable and high availability payments and debt tracing service.
27. It is imperative these systems remain stable during the transition, so MSD effort is free to focus on transformation rather than operational activities.
28. This infrastructure investment will mitigate the risk that the current aging SWIFTT and TRACE platform fails and prevents or delays the Ministry from making essential income and superannuation payments to over 1.2 million New Zealanders.
29. The SWIFTT and TRACE re-platform will maintain the working experiences and outcomes for our people through:
 - a) **Mana Manaaki – A positive experience every time**
The SWIFTT and TRACE re-platform will ensure frontline staff continue to provide direct client support with the same level of service.

4.0 Options Analysis

30. The following three options have been identified (see Appendix 4 for Financials comparing Buy versus Lease):

a) Option 1 – Do Nothing - continue operating current SWIFTT and TRACE platform until migration to Te Pae Tawhiti future state (Not Recommended – unacceptable risk)

Continuing to run on the current platform will significantly compromise the ability of SWIFTT and TRACE to meet current Service Level Standards. The platform will not be assured of 99.9% availability as hardware and software support ends and performance times may degrade. Running on out of support hardware and software will increase the risk of unplanned outages preventing or delaying weekly payments. Performance times may also degrade as new components are not available to upgrade the hardware.

b) Option 2 – Lease hardware and amortise DXC transition services (Not Recommended – more expensive than buy)

This approach would treat the hardware and platform transition as services over 60-months. Over five years total cost at \$49.5M was \$1.4M higher than the buy cost and Net Present Value (NPV) analysis shows it is \$354k more expensive. An eight lease would require Minister of Finance approval as Government departments do not have delegation to enter leases greater than five years.

c) Option 3 – Buy hardware and transition services (Preferred Option)

This approach purchases the hardware and implementation services outright. Over five years total cost at \$48.1M was \$1.4M lower than the lease cost and NPV analysis shows it is \$354k cheaper.

This option fully refreshes all hardware and software mitigating the failure risk for all components and giving MSD confidence that essential main benefit and superannuation payments averaging over \$500M per week will be made.

The new platform uses more modern hardware that is faster and with more resources. This will improve platform performance and provide the transactional and processing capacity required for the next 5 – 7 years of growth.

The new platform also allows extensive testing for the Oracle 12c and RHEL 6.6 which are considered major upgrades that the current platform could not support. The new platform also delivers dedicated DR and the ability to move to fully virtualised servers.

4.1 Review of Options

Option 1 – Do Nothing - continue operating current SWIFTT and TRACE platform until migration to Te Pae Tawhiti future state (Not Recommended)

This option was discounted due to the following unacceptable risks for the Ministry:

- a. Continuing to run on the current platform will significantly compromise the ability of SWIFTT and TRACE to meet current Service Level Standards. As hardware and software increasingly goes out of vendor support, DXC will need to move to 'best endeavours' service levels for any faults or issues associated with products MSD has chosen not to upgrade, with no service credits or liability.
- b. Performance times may degrade as new components are not available to upgrade the hardware.
- c. Several components require upgrades or replacement to ensure ongoing vendor support. Examples include Oracle and the 3PAR storage system by 2022; and RHEL and F5 servers by 2025.
- d. Oracle and RHEL are major upgrades and considered high risk in the current environment. The lack of spare hardware restricts what testing can be done pre-cutover, and severely limits options for implementing and rolling back changes to production systems.
- e. 3PAR storage goes fully end of vendors (HP) support in October 2022 and must be replaced. This effects all systems that make up SWIFTT and TRACE, across all environments. If done independently of a broader platform upgrade - integration and migration of production systems to new storage introduces risks for disruption to service and availability of all environments.
- f. F5's load balancers went End of Software Development in April 2021, where "F5 is no longer liable to provide security updates, software fixes (hotfixes), or consulting services for that specified product". While hardware continues to be covered under extended support until 2025, the lack of new security updates for this important end user facing component will limit what DXC can do to ensure ongoing security and availability of the SWIFTT application.
- g. The platform was designed 2015 for five years of growth (based on historic trends), with additional contingency of 20%. Over time we have seen the transaction load on SWIFTT grow, with one of the main contributors being the web service calls that support 24x7 online processing. As the web services load continues to grow, our ability to maintain existing services levels and maintain a high level of availability for SWIFTT on the current platform will diminish
- h. The introduction of newer software and operating systems will increasingly risk creating problems of compatibility with end of life hardware, drivers or other software - due to a lack of manufacturer testing and certification for legacy products.
- i. The risk of failure to MSD ability to make \$500M of payments a week presents an unacceptable level of risk of service failure to the Ministry.
- j. Business benefits identified in Appendix 1 will not be realised.

Option 2 – Lease hardware and amortise DXC transition services (Not Recommended)

This option was discounted as the lease cost was \$1.4m more expensive than the buy option and it has a \$354k higher NPV. The lease option would be restricted to a five-year term as Government departments do not have delegation for longer unless they seek Minister of Finance approval. Another platform refresh in 2026 is likely as TPT timeline currently requires SWIFT and TRACE platform until 2029+.

- a. Five-year costs of Option 2:
 - SWIFTT and TRACE run costs 9(2)(b)(ii)
 - Hardware costs 9(2)(b)(ii)
 - DXC new platform transition costs 9(2)(b)(ii)
 - MTSU – software upgrade 2024/25 costs 9(2)(b)(ii)
 - MSD project costs 9(2)(b)(ii)
 - Total five-year cost - **\$49.5m**

Option 3: Buy (Preferred option)

This option was preferred over option two as it is \$1.4m cheaper than the lease option and it has a \$354k lower NPV. It also:

- a. Fully resets the hardware and software mitigating the failure risk for all components which gives MSD confidence that essential income and superannuation payments averaging over \$500m per week will be made.
- b. Will improve platform performance and provide the transactional and processing capacity required for the next 5 – 7 years of growth. It also resets the hardware aging failure risk for all components.
- c. New platform allows extensive testing for the Oracle 12c and RHEL 6.6 which are considered major upgrades that the current platform could not support.
- d. The introduction of VMware virtualisation provides significant improvement to:
 - System patching and updates – systems can be easily cloned, enabling changes to be applied to the copy and quickly switched into production. Enables faster, simpler roll back of changes if problems are encountered.
 - Hardware updates – virtual systems can be seamlessly moved to different physical hardware enabling updates to be applied without disrupting the applications or the end to end service
 - Development and testing - as test or development instances can be more easily and quickly created, changed, or decommissioned.
- e. The new platform will increase capacity for dedicated testing environments by 50% and provide a dedicated DR environment.
- f. There will also be improved security through separation of platform management services from other workloads, ensuring production SWIFTT and TRACE environments (and the data contained within them) are more secure.
- g. Five-year costs of Option 3:
 - SWIFTT and TRACE run costs 9(2)(b)(ii)
 - Hardware costs 9(2)(b)(ii)
 - DXC new platform transition costs 9(2)(b)(ii)
 - MTSU – software upgrade 2024/25 costs 9(2)(b)(ii)
 - MSD project costs 9(2)(b)(ii)
 - Total five-year cost - **\$48.1m**

4.2 Evaluation of Options

31. The table below provides an overview of the build and buy options:

	Option One (Do Nothing)	Option Two Lease	Option Three Buy
Ensure platform availability - failure risk for hardware and software able to be mitigated	✗	✓	✓
Platform secure - software and firmware able to be upgraded to current and supported versions until 2027.	✗	✗ <i>Vendor only able to lease until 2026</i>	✓
Platform performance – current levels of platform responsiveness and service levels maintained until 2027.	✗	✗ <i>Vendor only able to lease until 2026</i>	✓
Improve platform capabilities – take advantage of new technologies to improve DR and responsiveness to changing business demands (growth and testing capabilities)	✗	✓	✓
Support SWIFTT and TRACE services to 2029 – ensure service availability until 2029 enabling TPT to transform MSD income services	✗	✗ <i>Vendor only able to lease until 2026</i>	✓
Delay costs – minimise expenditure on the SWIFTT and TRACE platform	✓	✗	✗
Option Cost over five years	<i>N/A</i>	<i>\$49.5m</i>	<i>\$48.1m</i>

32. Five-year cost analysis performed to determine Net Present Value also used in the option analysis shown below (see Appendix 4 for detailed Financials comparing Buy versus Lease):

Summary of Options	Option 1: Do Nothing	Option 2: Lease	Option 3: Buy
Appraisal Period (years)	N/A	5	5
Capital Costs	N/A	9(2)(b)(ii)	
Whole of life costs	N/A		
Present Value of monetary benefits	N/A		
Present Value of costs	N/A		
Net Return	N/A		
Net present value	N/A		
Benefit criteria 1			
Benefit criteria 2			

33. Capital costs of 9(2)(b)(ii) to be funded from Capital Baseline.

34. Operating costs of 9(2)(b)(ii) are currently factored into the current IST Operating budget (approximately 9(2)(b)(ii) per annum).

35. Option analysis contains no contingency.

5.0 Whole of Life Financials

36. To proceed with the recommended option an investment of \$8.8m of General Capital is required to complete all work described in this business case, \$7.8m in 2021/22 and a further \$1m in 2024/25 for a midterm software upgrade.
37. The annual OPEX investment peaks at \$8.4m and is fully funded from existing operating budgets.
38. The table below contains financial analysis for the recommended option (Option 3: Buy SWIFTT and TRACE re-platform) over eight years:

	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	5 Years
Statement of Financial Performance									
Operating costs	9(2)(b)(ii)								
IT Equipment and Service Related Cost	9(2)(b)(ii)								
Depreciation total	9(2)(b)(ii)								
Capital Charge total	9(2)(b)(ii)								
Total operating cost	9(2)(b)(ii)								
Benefits/savings (Modelled)									
Government (Hard)	9(2)(b)(ii)								
Government (Soft)	9(2)(b)(ii)								
Societal (Soft)	9(2)(b)(ii)								
Total benefits	9(2)(b)(ii)								
Net cost of change	9(2)(b)(ii)								
Statement of Financial Position									
Capital cost	9(2)(b)(ii)								
Other									
This costing includes contingency of									
Operating contingency	9(2)(b)(ii)								
Capital contingency	9(2)(b)(ii)								
Total contingency allowed	9(2)(b)(ii)								
Cost of change excluding contingency									
Operating (Excl Contingency)	9(2)(b)(ii)								
Capital (Excl Contingency)	9(2)(b)(ii)								
Total excluding contingency	9(2)(b)(ii)								
Operating cost	9(2)(b)(ii)								

39. The table below summaries total Business Case costs to June 2029 see Appendix 3 for Whole of Life costs

Description	Type	Charge	Frequency	Total cost
Current platform (Next Gen) run costs. Start from September 2021 to May 2022 (9 months) Whole of Life costs start when hardware received. This is already funded	OPEX	9(2)(b)(ii)	Per month	9(2)(b)(ii)
New platform (Voyager) support agreement. Start from June 2022 to end of June 2029 (85 months) Note extension in 2028 and 2029 may result in a higher monthly charge.	OPEX	9(2)(b)(ii)	Per month	9(2)(b)(ii)
MSD internal implementation costs Start July 2021	CAPEX	9(2)(b)(ii)	Per month	9(2)(b)(ii)
New platform DXC transition costs. Starting September 2021 to June 2022	CAPEX	9(2)(b)(ii)	Per month	9(2)(b)(ii)
New platform hardware purchase costs 9(2)(b)(ii) Sep 2021	CAPEX	9(2)(b)(ii)	One-off	9(2)(b)(ii)
New platform software upgrade (MTSU) 2024/2025	CAPEX	9(2)(b)(ii)	Per month	9(2)(b)(ii)
Additional Warranty of 9(2)(b)(ii) per annum from August 2026 to June 2029	OPEX	9(2)(b)(ii)	Per Month	9(2)(b)(ii)
Support and Maintenance of 9(2)(b)(ii) per month from Sep 2021 to June 2029 (94 months)	OPEX	9(2)(b)(ii)	Per Month	9(2)(b)(ii)
Whole of Life cost to MSD				\$71.8m
		*due to rounding CAPEX in table will sum to 9(2)(b)(ii) Actual value is 9(2)(b)(ii)		

The significant assumptions within these costs are that:

- a. The new hardware will be delivered by September 2021 at which point the following platform charges are covered by the five-year cost assessment:
 - 9(2)(b)(ii) per month for current SWIFTT and TRACE support starts September 2021 and applies until May 2022. Total cost is 9(2)(b)(ii). The cost will be met by existing OPEX funding for SWIFTT and TRACE.
 - 9(2)(b)(ii) for the purchase of the new platform starting September 2021.
 - 9(2)(b)(ii) for the DXC transition costs starting September 2021 and completing by June 2022. The cost will be IT Baseline Capital.
- b. The new platform goes live June 2022 and the following costs apply:
 - 9(2)(b)(ii) per month to run SWIFTT and TRACE for 85 months starting June 2022 for a total of 9(2)(b)(ii). The monthly payment will be met by existing OPEX funding for SWIFTT and TRACE.
 - 9(2)(b)(ii) for DXC to upgrade the platform software in 2024/25. This will be a time and materials charge and start from July 2024 and go to December 2024. The cost will be met by IT Baseline Capital.
 - 9(2)(b)(ii) to extend the hardware life past September 2026 to June 2029. We have assumed the annual hardware and warranty extensions cost will be 9(2)(b)(ii) per year for 34 months. The cost will be met by IT Opex Baseline.
- c. The internal MSD labour model cost is priced using contractor rates.
- d. The required IT shared services will be available to SWIFTT and TRACE project as dedicated resources when required (including architecture, IT Security, Middleware, Networks, Testing Services and Release Analysts).

5.1 Contingency

40. No contingency has been included in the budget. The project will provide regular progress and budget reports to the BC19 Infrastructure Modernisation Product Governance Group (BC19). A change request will be raised with Transformation Investment Committee (TIC) if an increase in the MSD internal costs budget is required.

6.0 Key Project Risks

41. A further project delivery risk assessment will be carried out as part of detailed design activities following business case approval and DXC starting the development of the detailed technical design. However, to aid the decision-making process the following high-level risks have been identified:

Risk ID	Risk description	Risk management controls (or planned controls)	Residual Consequence	Residual Likelihood	Predicted residual risk rating
1	Delivery Risk Delay ordering / receiving hardware pushes go live date past July 2022.	Provide letter of intent to SPARK immediately on TIC business case approval. Project can move through treasury and cabinet process while hardware is being ordered.	Major	Likely	High
2	Delivery Risk Delayed hardware pushes significant elements of the DXC build over the Christmas / New Year period. Delays result from DXC staff holidays overlapping and extended bottlenecks.	DXC Project manager to detail staff holiday plans and maximise progress pre-Christmas to minimise downtime. MSD sign approval for low value initial work SOW allowing DXC to progress elements of design before hardware arrives	Moderate	Likely	Medium
3	Delivery Risk Internal IST resources are unavailable as scheduled which impacts the timeframes and cost of the project.	Project resource will need to be constantly managed as part of the PI planning process and PEC priority. Resource plans will be kept up to date and provided to resource management with sufficient notice	Moderate	Possible	Medium
4	Delivery Risk Current Master Service Agreement between MSD and DXC ends July 2022 and procurement issues prevent a new agreement being completed before this date.	Procurement exemption from procurement board secured for new DXC contract to 2027 with 2029 extension. DONE Legal negotiation already underway, intent to complete agreement by August 2021	Minor	Unlikely	Low

6.1 Risk Management Plan

42. A detailed risk management plan will be developed. The Delivery Lead will be responsible for developing and managing a risk register and escalating risk to project governance as required.

7.0 Expected Benefits

43. The new platform mitigates the risk that aging technology results in a significant equipment failure or unplanned outage threatens delivery of essential Income and Superannuation weekly payments worth \$500m to 1.2m+ clients.
44. The new platform will also ensure SWIFTT and TRACE are able to meet forecast future business driven growth and seasonal demand peaks, on a secure, stable and supported platform.
45. DR Testing effort will be reduced using Active DataGuard and the creation of a dedicated DR application environment this means:
 - a) Time to switchover to DR in emergency is reduced. The dedicated DR is essentially in pristine standby ready for the switch
 - b) Allow MSD to more frequently switch production to DR and vice versa. This is important to maintain DR readiness and is an important step in being able to develop an Active-Active DR environment.
 - c) Synchronised release to DR and Production. Currently production releases are made to DR the following week as same day release requires significant effort. Releases will now typically be made same day, though large releases like the Annual General Adjustment (AGA) will be next day.
46. The new platform will have the capacity to support 50% more test environments than the current platform. The new platform allows additional environments to be created quickly and efficiently.
47. Improved security through separation of management services from other workloads, ensuring production SWIFTT and TRACE environments (and the data contained within them) are more secure.
48. Introduction of VMware virtualisation will provide significant improvements for:
 - System patching and updates – systems can be easily cloned, enabling changes to be applied to the copy and quickly switched into production. Enables faster, simpler roll back of changes if problems are encountered.
 - Hardware updates – virtual systems can be seamlessly moved to different physical hardware enabling updates to be applied without disrupting the applications or end to end service
 - Vmotion will reduce the number of scheduled outages as hardware maintenance can be done without scheduling downtime or disrupting business operations. Vmotion is a key enabling technology for creating a dynamic, automated and self-optimising data centre.
49. For further information on the identified primary benefit and the indicative measures associated with this business case, see Appendix 1 – Benefit Profile.

8.0 Commercial Approach

50. The project proposes to purchase the new platform hardware and software from Spark and contract DXC to provide implementation, operation, and maintenance of the SWIFTT and TRACE platform.

Hardware

51. The hardware is to be purchased through Spark using an existing agreement and the CAPEX cost will be funded out of IT Capital Baseline.
52. MSD Strategic Finance evaluated buy vs lease over five years and recommend buying due to the following:
- buying and servicing the equipment is \$1.4m cheaper than leasing
 - due to the timeflow of monies the Net Present Value (NPV) of buying is \$354k cheaper than leasing;

SWIFTT and TRACE Support Services

53. The new platform implementation will be carried out by DXC (Enterprise Services New Zealand) who currently supply software support services for SWIFTT and TRACE under a Master Service Agreement (MSA) contract which ends in June 2022.
54. The MSD Procurement Board approved an exemption from Open Tender for the SWIFTT and TRACE Software support services at their 17 June 2021 board meeting.
55. A new MSA is being negotiated with DXC that refreshes agreement clauses and terms to meet MSD standards such as "money laundering" clause. The MSA provides a vehicle to transfer all the schedules and Statement of Work's (SOW's) that exist under the current agreement to this new MSA.
56. The latest version of the MSA was sent to DXC 10 June 2021 with just three clauses requiring final agreement. Once final agreement has been reached this MSA will replace the existing MSA & SOW's.
57. The new MSA will extend to 2029 with an underlying DXC agreement to provide operational support for five years with provision for two one-year extensions to June 2029. The MSA terms will allow MSD to negotiate additional services such as those needed to support the development and progressive implementation of TPT.
58. The Master Services Agreement allows for the early termination of any service with 90 business days' notice subject to payment of the applicable early termination fees set out in the relevant Schedule. An estimate of the early termination cost is shown below:

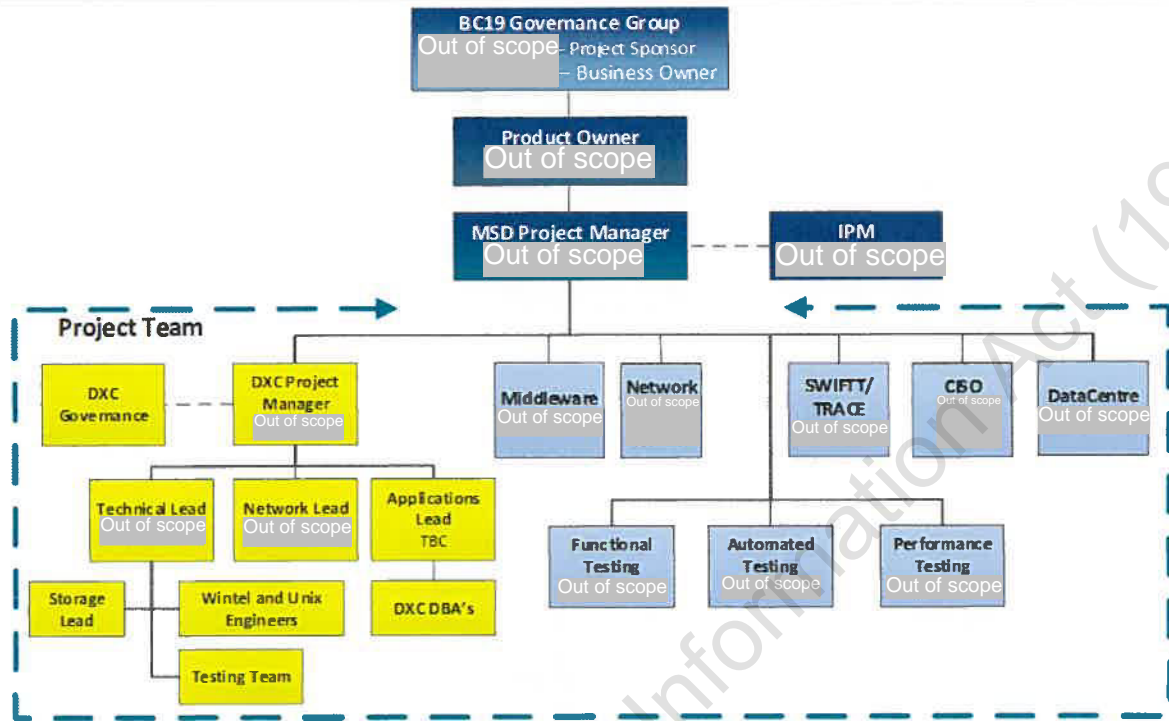
Year	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027
Licence Costs	9(2)(b)(ii)					

9.0 The Delivery Approach

9.1 Project Management

59. **Project Management:** The MSD project manager has overall responsibility for both MSD and DXC projects. The respective project teams will be managed as follows:
- a) The MSD project will follow MSD project Methodologies and use Program Increment (PI) Planning and MSD Atlassian planning tools to schedule and secure MSD resources such as network, middleware and testing resources required in PI 21 and 22.
 - b) The DXC project manager is responsible for the day to day management of the DXC agreed Deliverables and will report to the MSD Project Manager. The DXC project manager will:
 - Follow the DXC Project Management Lifecycle (known as the EDGE framework). This framework allows for a mix of waterfall and agile techniques as appropriate and lends itself to both application and infrastructure projects.
 - Own the DXC component of the Project Plan and provide weekly formal status reporting to the MSD project manager. Status reporting will contain the following information:
 - Progress and milestones completed during the week
 - Planned progress and milestones not completed during the week and mitigating actions
 - Planned milestones
 - Top 5 issues and risks along with mitigating actions
60. **Project Governance:** The SWIFTT and TRACE project will report into the established BC19 Infrastructure Modernisation Product Governance Group (BC19) for project governance. Both the project Sponsor and the project business owner are BC19 members.
- a) The BC19 Governance Group will receive monthly project status reports from the MSD project manager which will include input from the DXC project manager.
 - b) The status report will share progress and achievements and raise risks or issues requiring BC19 direction.
 - c) The MSD project manager has the authority to run the project on a day-to-day basis on behalf of the project Governance Group and ensures the DXC and MSD project teams produce the required products within the specified tolerances of time, cost, quality, scope, and risks.

61. **Project Operation:** The DXC project manager will host and document a joint weekly meeting with the DXC and MSD project teams to discuss delivery progress, risks and issues. The combined project structure is shown below:



9.2 Business Change

62. The project has no functional changes for either SWIFTT or TRACE. As a result, the project does not require MSD change management, training and development or frontline change delivery resources.
63. The project will require MSD change management team involvement in setting and communicating the cutover date to frontline teams.
64. DXC Operations, Middleware and Network support teams will be fully aligned with the platform refresh programme. DXC will conduct training and produce updated run books as outputs of the project as necessary due to changes such as virtualised server management, dedicated DR and dedicated inter data centre circuit.

9.3 Key Milestones and Dates

65. The key milestones are outlined in the table below with the project timeline shown in Appendix 2. These will be reviewed and refined once the project is approved and DXC stands up their project team and we have confirmed dates for receipt of the platform hardware.
66. As the project progresses these will be reviewed and updated at leading up to each Programme Increment (PI).

ID	Project key milestones	Timing
STR-1	MSD approves High Level Design of new SWIFTT and TRACE platform	Done 31 May 2021
STR-2	Procurement board approves exemption to directly extend DXC support contract to 2029.	Done 17 June 2021
STR-3	TIC approve business case and provide approval to start hardware purchase through letter of intent with Spark	July 2021
STR-4	MSD completes Treasury and Cabinet process	July - August 2021
STR-5	MSD and DXC agree and sign new Master Services Agreement and support / project Statement of Works	July - August 2021
STR-6	DXC stands up project team and defines project schedule	August 2021
STR-7	Delivery of platform hardware.	Sep - Oct 2021
STR-8	DXC builds and connects new platform. DXC only activity with MSD project and design support	Oct 2021 - Feb 2022
STR-9	DXC performs environment migration and testing new platform. Makes test environments available to MSD	Mar - Apr 2022
STR-10	DXC finalise detailed technical and detailed physical designs	Apr - May 2022
STR-11	MSD perform Integration, functional, automated and PERF testing	May - June 2022
STR-12	MSD approve technical and physical designs. MSD security complete security recertification of SWIFTT and TRACE	June 2022
STR-13	MSD signoff testing and implementation plan and approval to go live	June 2022
STR-14	Go live	July 2022
STR-15	Handover to project to decommission current platform	Aug - Sep 2022

9.4 Dependencies

67. The project will have the following dependencies:

	Dependencies	Notes
1	Ministry prioritisation	This project is dependent on the PI Planning process and associated prioritisation done by PEC. This process is dependent upon the capacity for internal IT to complete the work.
2	Availability of internal technical resources	Specialist subject matter experts will be required for successful delivery. This is particularly so with Middleware, Security and Networks.
3	Availability of hardware	The SWIFTT and TRACE re-platform is critically dependent on the procurement and delivery of the necessary hardware and software to commence the build part of the project.

10.0 Design Controls

10.1 Health, Safety and Security

68. As SWIFTT or TRACE functions remain unchanged there are no known impacts to staff or client health and safety.

10.2 Business Continuity

69. The new SWIFTT and TRACE platform will mitigate the risk of a platform failure occurring due to aging hardware or unsupported software.
70. The new platform is built on more modern hardware that is faster and with more resources that provide capacity for dedicated DR, testing and performance environments.
71. There will also be improved security through separation of management services from other workloads, ensuring production SWIFTT and TRACE environments (and the data contained within them) are more secure.
72. The introduction of VMware virtualisation will provide significant improvements for:
 - System patching and updates – systems can be easily cloned, enabling changes to be applied to the copy and quickly switched into production. Enables faster, simpler roll back of changes if problems are encountered.
 - Hardware updates – virtual systems can be seamlessly moved to different physical hardware enabling updates to be applied without disrupting the applications or end to end service

10.3 Privacy and security of information

1. The required Security Change Certification and Privacy considerations and processes are work in progress and will continue once funding is approved.