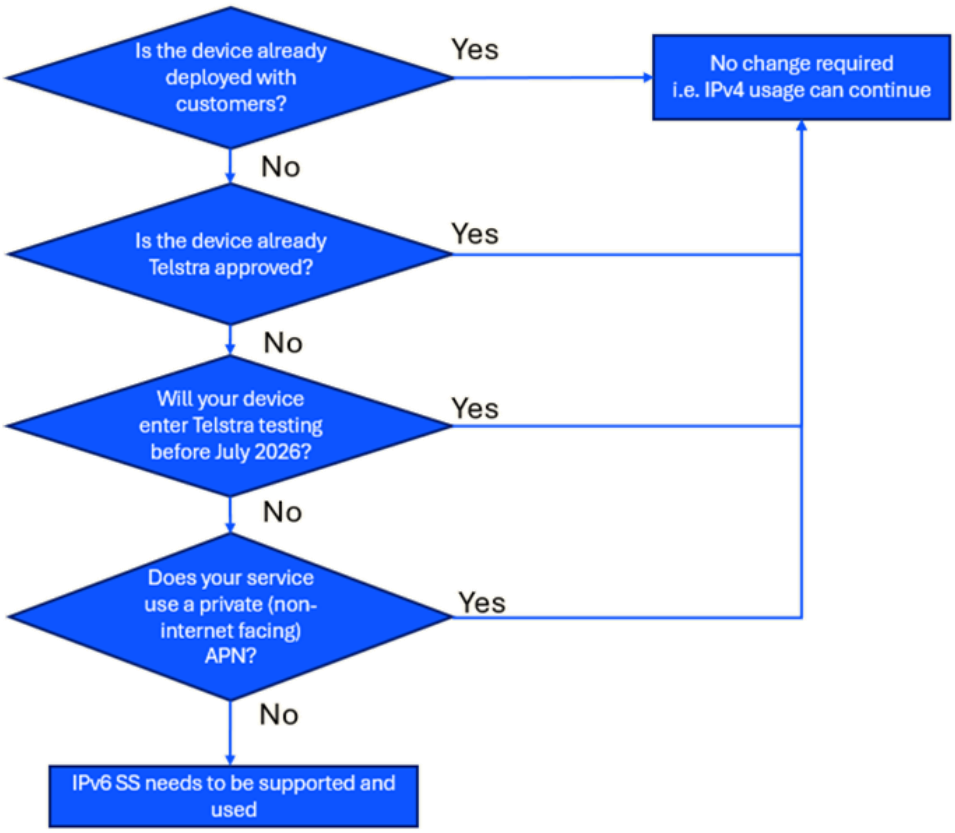
01 IoT IPv6 FAQs INTRODUCTION

Transition to IPv6 Single Stack for IoT and M2M devices

With the continued and forecast growth of Internet of Things (IoT) services in Australia, the demand for IP addresses has increased exponentially. Every device that connects to the network is allocated an IP address, as IoT device numbers are growing so are the number of allocated IPv4 addresses. As a result, the pool of available IPv4 addresses is rapidly being exhausted and transitioning to IPv6 addressing is required as its pool size is considerably larger. This is a challenge faced by all operators, including Telstra, and is particularly acute for IoT devices. This guidance primarily applies to new IoT solutions and devices using any other internet facing dedicated APNs like Telstra.m2m, Telstra.internet or m2m.dcp.telstra. From 1st July 2026, Telstra will begin onboarding new IoT solutions to IPv6 Single Stack (IPv6 SS) addressing. This is necessary to help maintain ongoing availability and reliability of connectivity for all IoT solutions, as the current IPv4 address space is no longer sufficient to support future growth.

02 GENERAL QUESTIONS

Summary flow of devices that need IoT IPv6 support



If further clarification is required, please contact Telstra through your usual contact points.

2.1. What is IPv6?

- IPv6 was defined to resolve the long-term forecast that the IPv4 address pool would eventually be fully utilised. IPv6 is a mature technology that was drafted as a draft IETF specification in 1998.

2.2. What happened to IPv5?

- Work was started on IPv5 but was never standardised for several reasons. One of the reasons was that it had the same limited number of addresses as IPv4.

2.3. Does IPv6 have enough addresses?

- Yes, IPv6 has significantly more addresses than IPv4 (globally IPv4 supports ~4.3 billion addresses whilst IPv6 can support ~3.4x10^{38} addresses)

2.4. What is the timeline to transition to IPv6?

- Telstra already supports IPv6 and we are planning to mandate IPv6 single stack (IPv6 SS) support for new IoT/M2M applications from 1 July 2026. Telstra understands that some programs may already be in progress, so please reach out to Telstra or your account manager to discuss the appropriate timing for your program/s to transition to IPv6 single stack.

2.5. Will my existing IoT solutions that have already been deployed stop working?

- Existing services using IPv4 will continue to function

2.6. Can I continue deploying Telstra certified IPv4 devices with my existing in market solution?

- Yes, IPv4 devices certified by Telstra can continue to be deployed for an existing solution. Telstra appreciates migrating a solution to IPv6 is not a simple exercise hence expects that only new solutions and/or new device types to start using IPv6. Telstra cannot guarantee availability of IPv4 addresses indefinitely hence the ask to start planning your move to IPv6 SS.

2.7. When will Telstra stop certifying new IPv4 only devices?

- From 1 July 2026.

2.8. Is this a new change for Telstra?

- Telstra has been configuring retail devices (handsets/tablets etc) to use IPv6 single stack for over 5 years. We are now expanding the capability to support IoT, M2M and other non-retail devices.

2.9. What is the difference between IPv4 SS (Single Stack), IPv4v6 DS (Dual Stack) and IPv6 SS?

- A device can be configured with one of the 3 options below, and will request and be allocated an IP address depending on the configuration:
    - IPv4 SS – it requests an IPv4 address only
    - IPv4v6 DS - it requests an IPv4 and IPv6 address. The network may respond allocating an IPv4 address, IPv4 and v6 addresses or just an IPv6 address
    - IPv6 SS – it requests an IPv6 address only

2.10. Is there further information available?

Yes, we also provide more information on IPv6 in Telstra's Wireless Application Development Guidelines at: https://www.telstra.com.au/content/dam/shared-component-assets/tecom/iot/capabilities/certified-devices/Telstra_Wireless_Application_Development_Guidelines.pdf

03 TRANSITION QUESTIONS

3.1. Will there be any changes to my plan or features?

- No, there are no changes to your IoT plan or service features because of this transition.

3.2. What happens if I do not upgrade to IPv6 SS?

- See response here. Telstra cannot guarantee the availability of the IPv4 address space indefinitely hence the request to start planning your move to IPv6 SS.
- Telstra will not certify new devices that do not support IPv6 SS from 1 July 2026.

3.3. With the introduction of IPv6 SS should my device still need to support IPv4?

- Yes, it is required that your devices continue to support IPV4, as there are many cases where IPv4 may still be required e.g. roaming, VPN etc

3.4. Can I configure my services as IPv4v6 Dual Stack?

- This is an option but not recommended as it still can utilise an IPv4 address, and Telstra recommends the default configuration to be IPv6 SS.

3.5. Does Telstra test IPv6 service capabilities?

- As part of Telstra's device certification program, we validate IPv6 single stack performance. The testing focuses on the device's interoperability with the Telstra cellular network and not your end-to-end solution. Customers will need to validate the end-to-end solution themselves to ensure that IPv6 works as expected.

3.6. What if my solution uses multiple APNs?

- Depends on the solution, however, APNs can be configured with their own IP version, for example an internet facing APN can be IPv6 SS whilst private network facing APNs could be configured as IPv4.

3.7. Will I be disconnected if I continue to use IPv4?

- No, Telstra will continue to support IPv4 solutions, but to ensure long term connectivity customers should transition to support IPv6.

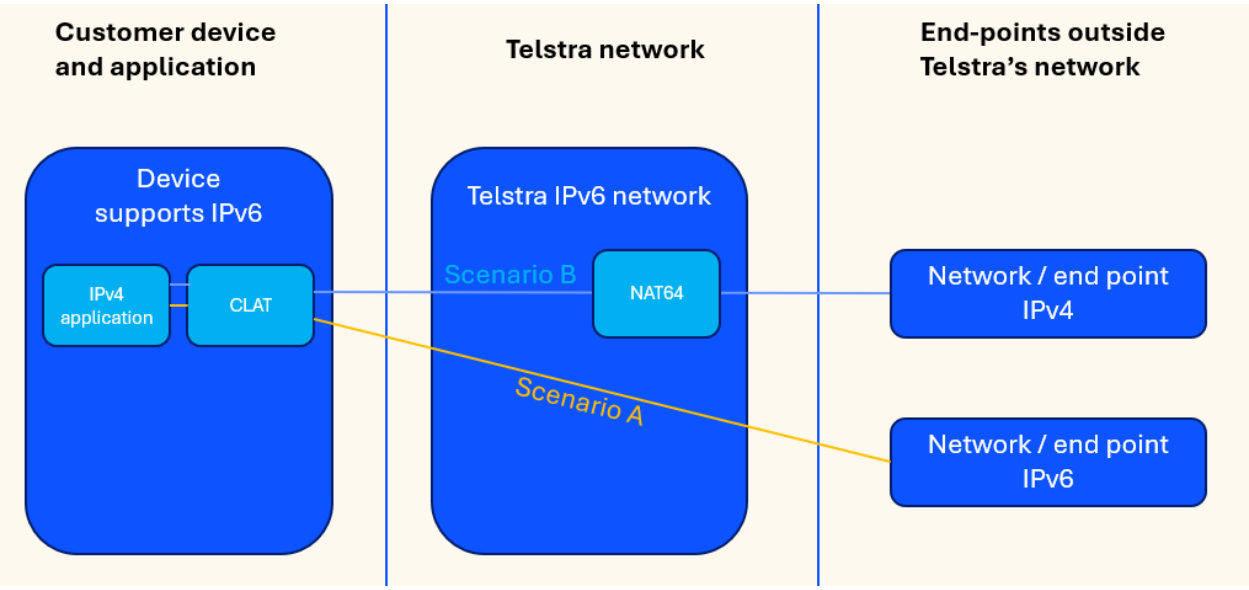
3.8. How reliable is Telstra's DNS64/NAT64 network address translation capability?

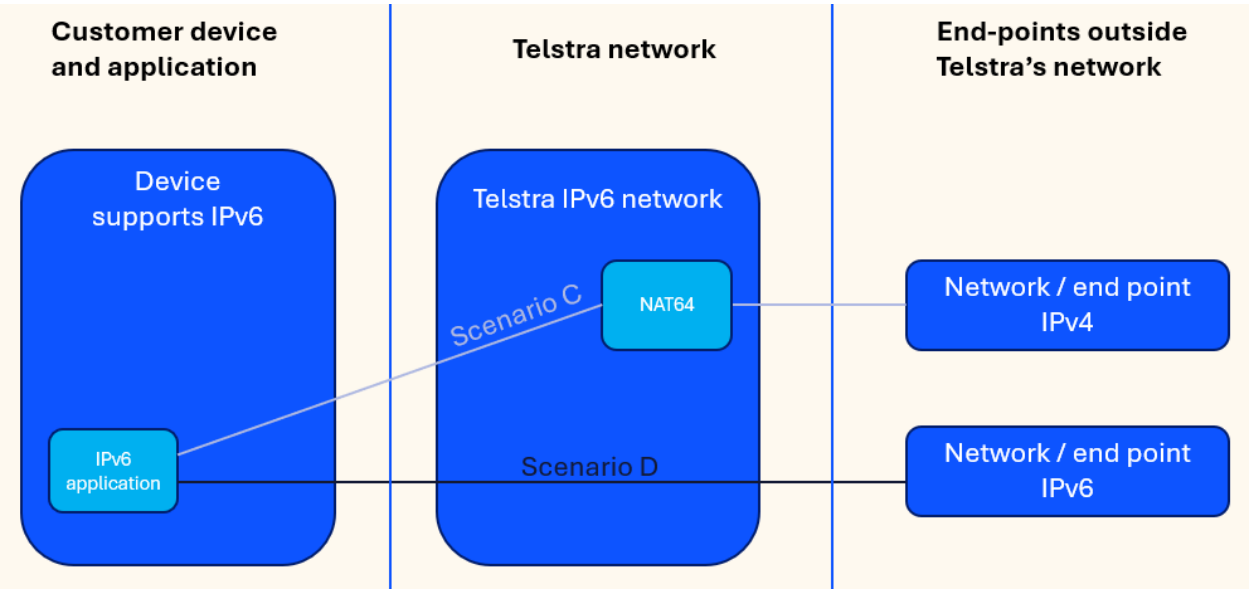
- The Telstra Mobile Network is designed and maintained to specified network standards, which are in line with world best practice and adhere to all Australian regulations and standards. Telstra's core mobile network systems for both voice and data are designed with redundant systems to mitigate the possibility of a single point of failure causing a customer-affecting outage.
- The Telstra wireless core network (switches, routers and transmission) is designed for very high availability and robustness. Physical redundancy and, wherever feasible, geographical diversity are provided for each of the core network elements.

3.9. What happens if v6 isn't supported end to end?

- There are several capabilities that can help IPv4 and IPv6 interwork with each other, they are generically called XLAT and can be either in the device or the network. In the network it is called PLAT (Provider-side translator) and in the device it is called CLAT (Customer side Translation) and effectively do the same task but at different points of the communication flow. They translate between IPv4 and IPv6 communications. Some typical scenarios are here:
    - Scenario A: my device's application is IPv4 only and my device and destination points are allocated IPv6 address only. In this scenario supporting CLAT in the device should resolve this. CLAT allows an IPv4 application to successfully connect to a IPv6 network by translating the IPv4 addresses to IPv6 which is hidden from the application.
    - Scenario B: my application and end point are both IPv4 only but my device is allocated IPv6 address only, this can use the XLAT capabilities in both the device and the network i.e. CLAT and NAT64.

- Scenario C: my application is IPv6 capable and device is allocated IPv6 address only, but my network end point is IPv4. This requires a NAT64 in the network which Telstra supports.
- Scenario D: if application and end point is IPv6 capable and device is allocated IPv6 only no XLAT is required





- Please reach out to Telstra for your specific scenario if you want to discuss further

3.10. Are all Telstra IoT SIMs capable of IPv6 SS?

- Yes, all SIMs currently active are capable of connecting with IPv6.

3.11. How do I determine if my device supports IPv6 SS?

- Telstra recommends that you reach out to your device supplier. You are welcome to use the connectivity management platform insight into the IP address allocated for data sessions however the IP address allocated also depends on the actual request the device made as well as the IP version your solution supports.

3.12. I don't have the capacity to change my IPv4 device to IPv6 for my new solution, will Telstra disconnect my devices?

- At this point in time, we strongly recommend that you start planning your transition to IPv6 SS capability. Telstra constantly assesses risk and reserves the right to take further action. Please raise this with Telstra for further discussion.

04 SERVICE/ ACCESS RELATED QUESTIONS

4.1. Is IPv6 supported on 4G, 5G NSA and 5G SA?

- Yes, it is supported across all of Telstra's wireless mobile technologies.

4.2. Is IPv6 supported on CMP (Connectivity Management Platforms)?

- Telstra M2M Control Centre and IOTA Global Connect (IOTA platform) both support IPv6 for device connectivity.

4.3. My service supports voice, how is this impacted?

- Voice services are delivered using different APNs, these APNs have separate IP version configuration profiles which are IPv4v6 dual stack for ims and IPv4 for hos (used for supplementary service setting). If you require more details of these profile settings, please contact your Telstra account executive in the first instance.

Note: Telstra shares Device Technical Requirements (DTR) documents which describe the technical voice service details with device vendors. Telstra voice service configuration information is also available through the GSMA NSX (Network Setting Exchange).

4.4. What about MMS?

- MMS is not supported for IoT/M2M use cases.

4.5. What about SMS?

- SMS delivery is not impacted.

4.6. Is IPv6 supported on WiFi tethering?

- Yes, though it depends on the capability of the device providing the WiFi.

05 CUSTOMER DEPLOYMENT QUESTIONS

5.1. We use a public APN (internet facing), what do we need to do?

- For new devices that will go through the Telstra certification program approved you need to transition to utilise IPv6 single stack.

5.2. We use a private APN (private network facing), what do we need to do?

- The IPv6 SS requirements are only applicable for internet facing APNs.

5.3. I am using a shared Telstra internet facing APN for my solution. I intend to start introducing IPv6 SS capable devices, will they work?

- Yes, they will work. Shared Telstra's internet facing APNs support dual stack IPv4/IPv6 addressing, IPv4SS and IPv6 SS configured services. Examples of Telstra's IoT internet facing APNs are: Telstra.m2m, Telstra.internet, m2m.dcp.telstra.

5.4. My services are using dedicated internet facing APNs, am I impacted?

- Your existing services are not impacted. However, if you wish to deploy a new solution leveraging a new dedicated internet facing APN you must ensure your end-to-end solution supports IPv6 SS.

5.5. How should the device behave when roaming overseas?

- While IPv6 has been deployed for at least 15 years, not all operators support IPv6 and the service may have issues with connectivity in these situations. The device should be configured to use IPv4 SS when roaming or if the service requests a IPv6 SS address and this address request fails, the device should have a fallback mechanism whereby it requests a IPv4 SS address. Telstra supports IPv6 SS for roaming. For devices that may roam they should have separate APN configurations for home network use which is IPv6 SS and a roaming APN configuration which is IPv4 SS.

5.6. What do I need to consider when transitioning to IPv6?

- IPv6 SS testing is a key aspect of Telstra's device certification program, Telstra tests the device's IPv6 SS capabilities to ensure compliance. Customers will need to validate the end-to-end interworking of the services that will be used. Consider additional scenarios such as roaming.
- For customer devices that do not utilise the Telstra device certification program, it is the developer/customer's responsibility to validate IPv6 interoperability.

06 CONTACT INFORMATION

6.1. Who can I contact for more information?

- Please reach out to your Telstra Account Representative for further assistance.

Issue number	Issue date	Details on the change
1	24/04/2026	First release