



Fact Sheet

Data Access Radial (DAR)

Digital Data Transmission nx64 kb/s

Reliable, secure data access solutions

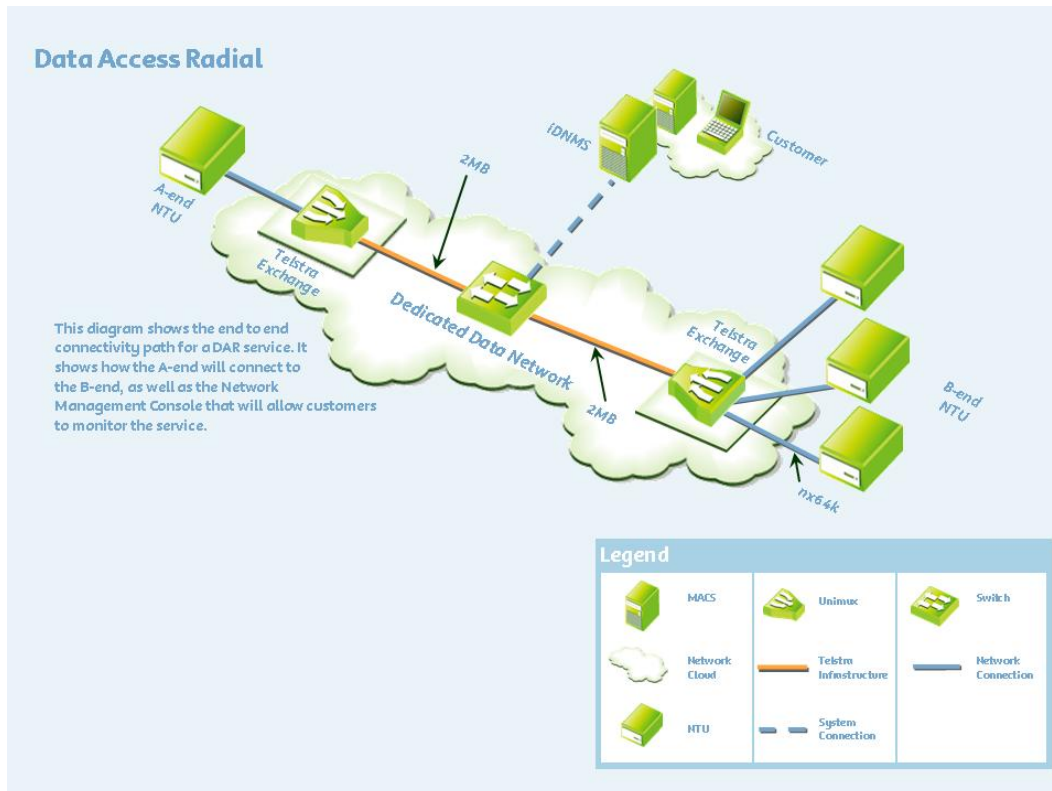
Telstra Wholesale's Data Access Radial (DAR) is a reliable and secure solution for the provision of dedicated data services and underlying access network to end users. As an access network, DAR allows customers to build and deliver an end-to-end service for their customers.

With DAR our customers can offer a dedicated connection between their point of presence (A-End) and the end user's site (B-End) via Telstra's Dedicated Digital Network (DDN). A range of features and options, as well as value added services, are available depending on the end user's needs and priorities.

DAR suits carriage service providers wanting to offer a premium quality dedicated data access service or frame relay service to corporations, SMEs or other business users. DAR may also be purchased by carriers for resale.

Customer benefits	Product features
Seamless connectivity	Extensive network coverage (we have more than 2000 DAR enabled exchanges) for ubiquitous and seamless network connectivity to your customers
Reliable	Availability target of more than 99.9 per cent
Flexible	Dedicated data bandwidth options ranging from 64kbit/s to 1984kbit/s to meet your customers' needs
Convenient	Use our online management system iDNMS to view, monitor and test your DAR services
Peace of mind	Telstra's Global Operations Centre monitors services around the clock to ensure the highest performance levels.





Features

- Extensive network coverage for ubiquitous and seamless network connectivity to end users.
- Dedicated data bandwidth options ranging from 64kbit/s to 1984kbit/s ($n \times 64\text{kbit/s}$) provide the flexibility, security and reliability required to meet customers' needs.
- Flexible A-End aggregation options enable easy connectivity to customer network equipment. Aggregated access provides a cost-effective solution to end user's network deployment or configuration needs.
- B-End support for G.703 or G.704, X.21, and V.35 physical interfaces minimises any compatibility issues with end user network interface.
- End to end provisioning of services include Network Terminating Units for end users, eliminating potential internetworking issues.
- Leading edge Global Operations Centre monitoring and maintenance of services 24 hours a day, seven days a week, 365 days a year with some of the world's most sophisticated management and operational systems.

Benefits

- Extensive coverage via access enabled in over 2,000 exchanges
- Secure connectivity being a lease line service
- High reliability with availability target of greater than 99.9 per cent
- Online management system (iDNMS) enabling customers to view, monitor and test their DAR services.

iDNMS – (internet Data Network Management System)

iDNMS provides DAR customers with an easy and secure access to manage their DAR services using a standard internet browser.

With iDNMS, customers can:

- confirm the configuration of network connections;
- receive a continuous view of events on their ports;
- proactively use commands to test and diagnose faults on communication channels;
- receive network event information;
- suspend and re-instate DAR service;
- query the DAR network e.g. query link status and circuit directions.

Benefits

- iDNMS provides customers with a powerful tool to help proactively manage their DAR network.
- The system is easy to use and can be accessed from any location via the web.
- There are no requirements to load and maintain specific application software or have a dedicated PC.
- iDNMS is a secure system with high data integrity and system redundancy.
- Structure network management roles by tailoring user specific access and functions to users.
- Customers can temporarily suspend and re-instate services without having to advise Telstra Wholesale (note that services will continue to be billed).

AS AN ACCESS NETWORK, DATA ACCESS RADIAL ALLOWS OUR CUSTOMERS TO BUILD AND DELIVER AN END-TO-END SERVICE FOR THEIR CUSTOMERS.

Coverage

DAR is available in all major capital cities and most regional and country areas in Australia, providing customers with excellent coverage for data services through a single solution.

DAR is an intra-state service – that is, it provides tail services only within each state or territory.

Prerequisites

To take advantage of Telstra Wholesale's DAR, customers will need their own network management system (and a facilities access agreement with Telstra Wholesale if it is required in TEBA space).

Configuration

DAR can be used to connect end users to a customer's existing backbone network (within the same state or territory only).

Data Access Radial has two distinct “ends” with an associated network terminating units (NTU):

A-end

The A-end is an NTU terminated at the customer’s PoP (Point of Presence). DAR supports two types of A-ends:

- Time Division Multiplex (TDM) access is a basic 2Mbps interface supporting G.703/G.704 aggregation.
- Universal Multiplexer (UNIMUX), which has its own Network Management System (UNMS), provides greater flexibility by supporting various interfaces towards the customer’s network interface (i.e. n x 64kbps, X.21/V.35).

B-end

Interface	Connector	Data Rate
X.21	DB15	N x 64k
X21bis	V.35	N x 64k
G.703 balanced	120 ΩRJ45	N x 64k
G.703 unbalanced	2 x 75 Ωcoaxial	N x 64k

The B-end is terminated at the end user’s premises. It is possible to configure multiple B-ends terminating on the same A-end. B-end Network Terminating Units support a number of interfaces (X.21, X.21bis, G.703, G.704).

Pricing

Basic charges

For each A-end or B-end service, there is a once-off installation charge and a recurring monthly rental charge.

B-end charges are based on three components: access speed, radial distance between Telstra exchanges serving the DAR services, and geographic zone (metropolitan or regional). The price includes the NTU, access and transmission.

Service restoration charges

Service restoration charges vary depending on the option chosen. The default level of service is Business Level which has a response time of two hours and a restoration time of 12 hours; no charge is applied for this service level. Customers will incur a charge for enhanced service restoration options including the pay-per-event service restoration option.

Customers can get a complete list of current tariffs from their account manager.

Ordering

DAR services can be ordered online or via your Telstra Wholesale Account Manager. We offer flexible straightforward contract terms and conditions as part of the customer’s agreement with us. Customers can use our secure online ordering service LinxOnline Ordering (LOLO) to order, change or upgrade their DAR services online, making business easier and efficient.

DAR is a premium data access product that will differentiate our customers’ service from their competitors. Telstra Wholesale account managers can help you answer the following questions:

- How many DAR services will I need?
- What access speeds will I need?
- Where are my end users located?
- How will the premium options add value to my business?

Billing/Payment

Billing and payment will be on the terms set out in the Access Agreement between the customer and Telstra.

Telstra Wholesale DAR is available for purchase and resale.

Delivery

Minimum standard provisioning times for basic DAR services is nine (9) business days in metropolitan areas and twenty (20) business days in regional areas. For an additional charge, customers may also request priority provisioning of four (4) clear business days (available in metropolitan areas only). A complete list of current provisioning targets is available from an account manager.

Each DAR service must remain activated for a minimum term of 12 months.

Operations and maintenance

Maintenance will be provided by Telstra only up to the Interconnect Terminal Point and, where applicable, to the Telstra NTU or Telstra UNIMUX located at the customer's premises or the end user's premises. Maintenance of equipment and cabling belonging to customers or end users is not included.

Telstra provides two optional network management systems, internet Data Network Management System (iDNMS) and UNIMUX Network Management System (UNMS), which can be used to proactively monitor and manage DAR services.

Managing faults

Customers who experience service difficulties or a fault in the service must first complete the required fault isolation and testing procedures. If a fault in Telstra's network is isolated, the fault should be reported to the appropriate Telstra fault reporting bureau. Telstra Wholesale account managers will provide these details.

Telstra endeavours to meet its target service restoration times. The default restoration time is 12 hours during business hours. There are various restoration options which can be requested depending on priority and the critical nature of the service. For remote rural areas restoration SLAs are extended by two days.

Telstra's range of enhanced fault restoration options have fault restoration times that improve on the default of 12 hours down to 2 hours and available 24 hours a day, seven days a week.

Flexible service restoration options

Service assurance is vital in a competitive data market and Telstra Wholesale offers a wide range of service restoration options for Data Access Radial.

Level	Response Time	Restoration	Hours of Business
Business	2 hours	12 hours	7am – 9pm Mon – Sat
Business Plus	1 hour	12 hours	24 hrs/ 7 days
Express 8 Plus ¹	1 hour ¹	8 hours ¹	24 hrs/ 7 days ¹
Express 4 ^{1,2}	1 hour ^{1,3}	4 hours ^{1,3}	24 hrs/ 7 days ^{1,3}
Express 2 ³	15 minutes ³	2 hours ³	24 hrs/ 7 days ³

1. A standby link or Telstra agreed equivalent is required to support the Express 8 Plus, and Express 4 Plus on A-end Unimux services.
2. Express 4 is only available where both the A&B Access ends are in urban areas, or for UNIMUX services in non-urban areas where a standby link or Telstra agreed equivalent has also been acquired.
3. Express 2 service assurance is only available in urban areas. If the repair cannot be remotely administered the repair time is 4 hours. Note that charges for Express 2 still apply.

In addition, Telstra also provides a pay-per-event option where customers can choose the necessary service restoration level at the time of reporting the fault. Per-event service restoration options include:

- Business Plus
- Express 8
- Express 4.

To use Pay-Per-Event, customers must select this option of service assurance when initially ordering the DAR service.

Related products

DAR can be integrated with other Telstra Wholesale products such as Wholesale Transmission to enhance customers' service offerings and provide greater value for money.

DAR with Wholesale Transmission gives a scalable data access service with speeds ranging from 64kbit/s up to 2.5Gbit/s. Customers also have the option of using Wholesale Transmission to backhaul the tail access data to their backbone network.

More information

We offer a range of value-added services with DAR, including network management, Test DAR service, service redundancy and Rapid Bandwidth Expansion.

Network management

We offer network management systems that provide the tools to manage and monitor services and also diagnose faults.

Internet Data Network Management System (iDNMS) is a web-based application that enables customers to proactively manage Data Access Radial Services.

Unimux Network Management System (UNMS) is designed to manage UNIMUX A-Ends, providing greater control of A-End services.

Test DAR service

This service allows the pre-provisioning of A-Ends, reducing provisioning delays to end users. The service also provides a test circuit to verify test traffic between the customer's network and end users' access points.

Service redundancy

For additional reliability standby 2Mbit/s link for UNIMUX A-ends can be purchased.

Rapid Bandwidth Expansion (RBE)

RBE is a facility which allows for upgrade of a DAR service within three business days. This offers a scalable solution that can be upgraded to meet varying end user needs.

Facilities access to Telstra's equipment buildings

A-End equipment can be provisioned in Telstra Exchange Building Areas (TEBA) for effective and efficient network deployment, reducing capital expenditure.

To find out more, talk to a Telstra Wholesale account manager or visit our website www.telstrawholesale.com.