

INTECHNOLOGY

SERVICE SPECIFICATION INTECHNOLOGY'S LANNET MANAGED ADSL

SD0030 v3.0

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SECTION 1: OVERVIEW

INTRODUCTION

Managed ADSL (Hull) is one of the LANnet connectivity options. It is a premium broadband service aimed at businesses looking to connect small and/or medium size offices to the corporate network. It includes the provision of a high specification terminating device that is managed and monitored from InTechnology's Network Operations Centre.

SECTION 2: SERVICE DEFINITION

InTechnnology's Managed ADSL (Hull) Service uses a cost-effective, shared, contended infrastructure to transport data from customer sites to the InTechnology MPLS core. The service requires a suitable KC analogue telephone line, and if this does not exist, it will need to be sourced from KC by the customer.

ACCESS CIRCUIT OPTIONS

A single speed option is available in the Hull area.

See Table 1 below for details of line speed:

Table 1 - Parameters for InTechnology's Managed ADSL (Hull) Service

Service	Upstream Speed	Downstream Speed
LANnet Managed ADSL Max	Adaptive up to 832Kbps	Adaptive up to 8Mbps

The actual speed of the line will depend upon several factors, including the noise conditions, the condition of the line and the distance from the serving exchange.

Actual data throughput at any point in time depends on a number of factors including the line speed chosen and the level of collective use of the underlying shared network. Consequently InTechnology cannot commit to deliver specific data transfer rates on any ADSL line.

DYNAMIC LINE MANAGEMENT (DLM)

Dynamic Line Management operates on the ADSL rate-adaptive services only. DLM effectively tunes the line performance to achieve a balance between maximising line speed vs. maximising stability. Historical performance data will be gathered periodically from the lines and this will be used to identify those lines which are not performing optimally. These lines will then be re-configured

automatically (if possible) to give an improvement in their overall ADSL performance. This re-configuration will result in a short break (typically 20 seconds) in the end user service.

It is possible that re-configuration of a line could occur daily until a stable configuration is found. The DLM process may result in a decrease in the ADSL line rate, but this will only occur where a line is identified as performing badly at a higher rate. DLM will also use interleaving to fix problem lines, and this will result in an increase in the delay over the connection, which may affect some delay sensitive services. The DLM process may also be applied manually as part of the standard repair process following an end user fault report.

InTechnology does not recommend that customers run business critical real-time services (e.g. telephony) over rate-adaptive speed options due to the network's tendency to periodically disconnect the line as part of DLM. InTechnology does not offer its Unity IP Telephony service over such lines.

CUSTOMER PREMISES EQUIPMENT (CPE)

InTechnology deploys a high quality, fixed configuration device on the customer's premises to provide demarcation of Bandwidth Services. Each Bandwidth Service will only be presented on a single interface on any piece of CPE. I.e. despite having unused interfaces, the InTechnology CPE cannot be used to provide connectivity to end-user devices. In almost all circumstances, the customer will need to provide a switch on customer sites to provide connectivity for end-user devices. InTechnology offers, separately, a managed Switch/LAN service. Please see the relevant Service Specification for details.

IMPROVED RESILIENCE

For sites that require higher levels of availability, a 3G connection can be used to provide backup for Bandwidth Services delivered over the primary ADSL circuit should a failure occur. Please see the ADSL Mobile Failover Service Specification for details.

SERVICE DESIGN

Customer data is carried over a KC telephone access circuit, then through the ADSL infrastructure and onto InTechnology's resilient core platform. User connections are authenticated on resilient authentication servers and the data tunnels are delivered to the appropriate VPN(s).

SERVICES DELIVERED

Managed ADSL connections can be used to deliver up to two InTechnology Bandwidth Services (that do not have overlapping IP address space).

INTERFACE

The service termination point is the various CPE Ethernet interfaces.

COVERAGE

The Managed ADSL (Hull) Service is available to customers with an 01482 number suffix on the KC network only. InTechnology consultants can check for availability before an order is taken but any speeds provided are indicative and no assurance can be provided that the speeds will be achieved.

QUALITY OF SERVICE (QOS)

InTechnology can offer only basic Quality of Service capability on the Managed ADSL (Hull) Service, as our supplier's infrastructure randomly drops packets at times of severe network congestion. Certain traffic can be prioritised in the upstream direction but not in the downstream direction.

PROVISIONING

Service Installation

InTechnology configures the network and ships the configured CPE to the customer, who is then required to connect it to the enabled line.

Lead Times

The target lead time to provide orders is between 10 and 15 working days and depends on the availability of a line. Actual times may vary depending on customer availability for appointment and any additional infrastructure shown to be required by the line plant survey if a new line is required.

SUPPORT

Repair Service Levels

InTechnology offers a single service repair level in the Hull area:

Standard Care – offers a 48 clock hour clear within InTechnology, but no guaranteed response time. No out-of-hours engineering visits are scheduled under Standard Care.

CPE faults

The Customer Premises Equipment (CPE) located on the customer site forms part of the service and is polled every 5 minutes for fault detection and reporting purposes.

If InTechnology determine that a fault on a Managed ADSL Service lies with the CPE, InTechnology will aim to deliver a pre-configured replacement device for customer self-replacement the next business day. Please see the LANnet core Service Specification for details of the expedited CPE repair option.

INTECHNOLOGY INFORM PORTAL

The InTechnology reporting portal presents information on the CPEs availability and the utilisation of the various Bandwidth Services delivered by the CPE.

SECTION 3: CHARGING POLICY

CHARGES

Charging for the Managed ADSL (Hull) Service consists of a one-off Service Activation Charge, a one-off Installation Charge and a Recurring Charge which is payable monthly in advance.

A further one-off termination fee will be applicable (usually at the end of the contract) if the service is not transferred to another broadband supplier using the same infrastructure supplier as InTechnology. The basic service charge does not include a telephone line.

Service Activation Charges specific to Managed ADSL connections include the following:

- CPE procurement
- ADSL enablement on the telephone line
- Implementation platform licensing costs

Installation Charges specific to Managed ADSL connections include the components listed below:

- Pre-sales consultation
- Replacement WAN design
- Device configuration
- Project management
- Shipment of CPE to site
- Service testing and internal documentation

The **Monthly Recurring Charge** for the service incorporates:

- A charge for the ADSL service capability on phone line
- A charge for the Bandwidth Services delivered over the ADSL service

ADDITIONAL CHARGES

InTechnology will undertake delivery and testing of the service during normal office hours (9:00 – 17:00 Monday to Friday excluding Bank Holidays).

Any customer requests for work to be completed outside of these hours will be accommodated where possible and such work will be subject to additional charge.

All other components will carry additional charges including, but not limited to, the following items:

- Any consultancy required to plan migration from, or integration with, an existing network.
- Any work required to make sites ready for new service (e.g. Cabling or configuration of existing devices).
- Any documentation produced for the benefit of the customer detailing the implemented solution.
- Work cancelled by the customer at short notice.
- Work done to rectify faults when it is found that the service is not at fault. Please see the Service Level Agreement for detail.

Please see the LANnet Core Service Specification for more details of InTechnology professional engineering/consultancy rates and other non-inclusive charges.

SECTION 4: SERVICE LEVEL AGREEMENT

SERVICE AVAILABILITY

Service Availability is measured at the on-site router as the percentage up-time seen by the InTechnology Network Management System. This percentage availability is reported on a monthly and 'last 12 months' basis. The Service Level Agreement offered is that over a 12 month period the percentage uptime will be at least 99.0% for a Managed ADSL (Hull) Service

Service Element	Percentage Uptime over 12 Months
Managed ADSL – Standard Care	99.0%

SERVICE CREDITS

After the Access Circuit has been in service for 12 months, the customer may claim any service credits due.

A service credit will be awarded if the availability has fallen below the specified minimum availability percentage averaged over the last 12 months, as reported by the InTechnology Network Management System, adjusted for the following instances:

- Service unavailable due to planned or emergency maintenance or during the maintenance window specified in the Customer Service Plan (CSP)
- Loss of power to the InTechnology equipment at the customer site
- Unauthorised interference with the cabling to the on-site InTechnology equipment
- Faults traced to the customer or to faults on the customer's side of the service termination point including local power or local area network failure
- Service unavailable due to contractual service suspension or to Force Majeure

Planned maintenance can involve a temporary suspension of part or all of the services in order to enable us to undertake vital remedial, maintenance or upgrade work. Controlled outages will always be notified to the customer at least 7 days in advance and be planned in such a way as to have minimum impact on the customer's operations.

Emergency maintenance required as a result of identifying a problem through ongoing monitoring and management, that could potentially cause an outage or failure of the service, will be notified to the customer at the earliest possible time and be managed in such a way as to have minimum impact on the customer's operations.

Any service credits due are calculated as follows:

If the availability of a site, measured over 12 months, is lower than the committed figure, a proportionate amount of the annual charge will be refunded by way of a service credit. The proportion will be the committed availability percentage minus the achieved availability percentage. For example, if the committed availability is 99.5% and the achieved availability is 98.0%, the service credit is 1.5% of the annual charge.

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