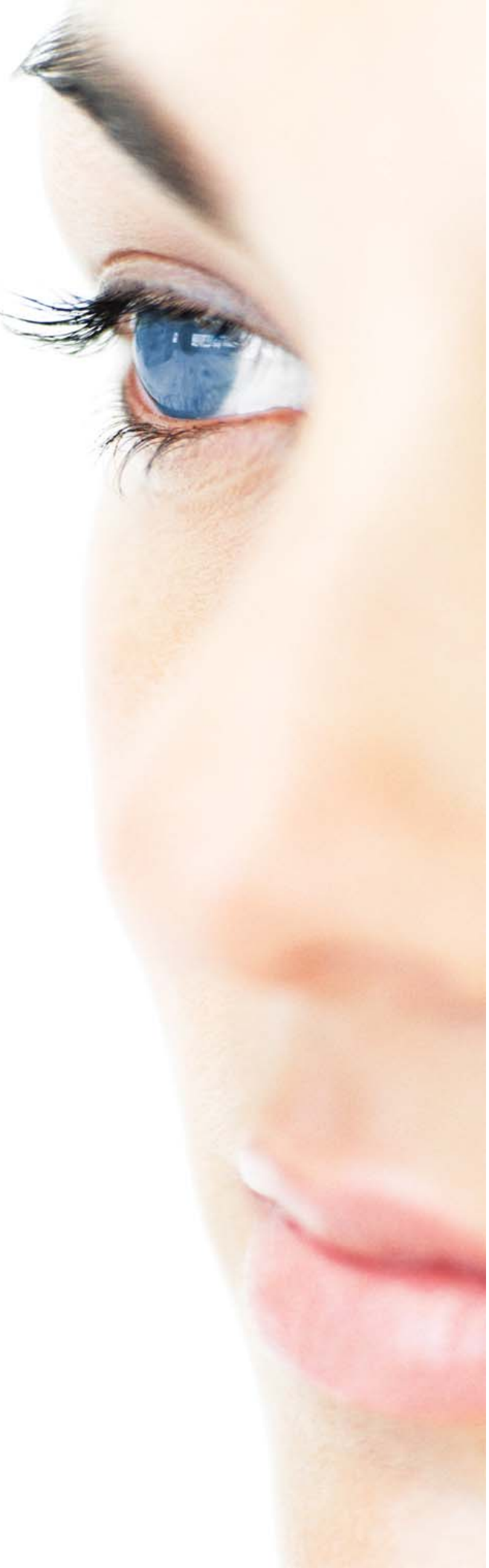

ADSL Mobile Failover Service Definition

SD034 v2.2
Issue Date: 17th September 2010

inTechnology

ADSL Mobile Failover Service Definition

Service Overview

The InTechnology 'ADSL Mobile Failover' service provides a cost effective back-up path for customer sites that have a primary LANnet Managed ADSL connection. The service is designed to provide a cost effective solution to support a customer's business critical applications given the capabilities and limitations of the mobile phone/data networks. A 3G router is installed on the customer site, usually adjacent to the ADSL router, and provides protection against failure of the ADSL service and failure of the ADSL router. The back-up router connects to the mobile network using 3G where available and at lower speeds where 3G is not available. InTechnology provides the 3G router and ensures that both the ADSL & 3G routers and all network components are configured to work together to provide the service. InTechnology monitors and supports all devices and customers are notified when the 'back-up' path is in use. Customers can choose to take the service with or without a mobile SIM card and data bundle. If the customer chooses to take the service without the SIM/data, it is the customer's responsibility to source and pay their provider directly for suitable mobile SIM cards and data bundles.

Installation

InTechnology will offer 3 installation options:

- InTechnology engineers perform a basic installation of the 3G router adjacent to the ADSL router and position an antenna within the same room in an attempt to maximise local signal strength. The antenna will be installed 'permanently' (i.e. it is fixed) to avoid someone inadvertently re-locating the antenna. This will be the basic service and included in the set-up charge. InTechnology cannot guarantee that coverage will be available or acceptable and occasionally the next option will also be required at additional cost.
- InTechnology will arrange for a specialist contractor to deliver an optimised connection using an external antenna and internal wiring if required. This will only be required when the InTechnology install does not offer the level of connectivity required. Again, even though this service will be chargeable, InTechnology cannot guarantee that coverage will be available or acceptable. The customer has the option to cancel the service if acceptable coverage cannot be achieved.
- The customer installs the mobile router. This is only an option for big roll-outs when both parties agree that installation is straight-forward, the back-up service works every time and there are no problems with coverage (as a result of experience from installing a number of sites using the options above). This option attracts a lower set-up charge.

During site installations, InTechnology will need to test fail-over and this will disrupt the primary service. A brief outage of approximately 30 minutes will be required during the working day (at an agreed time) to test failover & systems on back-up. If this is not acceptable, an out of hours install can be arranged at extra cost.

Support & Responsibility

InTechnology polls the 3G device to ensure that it is connected to the primary (ADSL) router but no information is retrieved regarding mobile availability, coverage or signal strength. This advanced level of monitoring is planned for a future release.

If a problem affects the 3G back-up service, the following table sets out the party responsible for the costs of 'corrective' work.

Identified Problem	Responsibility for costs	Cost incurred
Faulty router or antenna	InTechnology	Site visit & replacement
Incorrect solution configuration	InTechnology	As required to correct problem
Faulty SIM / contract issue (InTechnology Provided SIM)	InTechnology	Site visit & fault identification
Faulty SIM / contract issue (Customer sourced SIM)	Customer	Site visit & fault identification
Antenna damaged, relocated etc.	Customer	Site visit & replacement (if required)
Local environment	Customer	Site visit & new set-up if required
Other customer incurred fault	Customer	Site visit & other associated costs

Performance

InTechnology cannot guarantee throughput (bandwidth) of the back-up service for various reasons, including mobile cell usage, contention, signal coverage, network type, etc. Therefore, to offer the best possible performance, customers may choose to restrict the traffic across the mobile network connection so that only business critical applications are supported. Alternatively customers might prefer not to restrict applications and 'use the available bandwidth wisely' i.e. inform staff not to use certain applications when a site is on back-up. Customers taking the service accept that InTechnology has no control over available mobile network bandwidth and can offer no performance assurances.

In order to restrict application traffic on the back-up link, that traffic must be able to be classified (and therefore filtered) based on source/destination addresses and/or source/destination port numbers. This classification and filtering can be performed in the 3G router.

InTechnology regularly experiences one-way latency times in excess of 500ms for basic ICMP traffic. InTechnology is largely unable to affect these figures as they are determined by the mobile network. Customers accept that the back-up path has latency in this order of magnitude.

InTechnology advises customers wishing to procure their own SIM/data bundles to source these services from several mobile network suppliers so that the supplier with the best coverage can be selected. Local knowledge of 'good mobile coverage' at sites will prove valuable. The InTechnology 3G router will only support a single SIM card.

Fault Notification

InTechnology notifies customers of fail-over and fail-back using automated Email/SMS alerts using similar processes & procedures and the same Network Operation Centre as is used for the rest of the WAN network including the LANnet Managed ADSL service.

InTechnology is able to detect if the primary service fails and notify customers of this automatically. InTechnology will detect that back-up has initiated but it is not possible to confirm that customer data is using the back-up link as intended. If a customer determines that the systems at a site are not working as they should in back-up mode, the customer needs to raise a fault ticket with InTechnology for further investigation.

InTechnology technical staff can log on to the router during back-up to perform fault analysis but this is used only when necessary to leave the majority of bandwidth for use by the customer applications.

Reporting Capability

Information reporting, i.e. utilisation, data transferred etc. is not currently available; this is planned for future release.

Technical Solution Overview

VRRP is used to provide a gateway address for the 3G and LANnet ADSL routers. Ordinarily the ADSL router will adopt the VRRP address. Upon failure of the ADSL service or router, the 3G router adopts the address. The 3G router 'builds' an IPsec tunnel to an end-point on a Managed Firewall device within the InTechnology core network. The tunnel carries customer application traffic as well as some InTechnology reporting and fault analysis traffic. Within the core, dynamic routing protocols are configured to route traffic over the back-up link automatically when failure is detected and to swing the traffic back to the primary automatically when the primary circuit is re-established.

Service Inclusions & Dependencies

The Service is designed to integrate exclusively with InTechnology's MPLS WAN service. The service is to be used as a 'back-up' and is not to be used 'stand-alone'. An InTechnology Managed Firewall will be required within the core of the network to interface with the customer's VPN and to terminate IPsec tunnels.

SIM Provision & Data Utilisation

Customers may opt to take the service with an inclusive mobile SIM and data bundle, removing the need to source this component separately. An 'InTechnology' mobile SIM will be installed in the router at the time of service commissioning. The SIM/data is to be used exclusively as part of the Mobile Failover Service and must not be removed from the router or used for any other purpose. InTechnology may monitor the platform and apply a separate charge for any such usage. A 'Usage' allowance of 10GB per month per 100 sites is included in the tariff and is sufficient to back-up business critical applications on a stable ADSL network. Regardless of the reason for any excess usage, data transfer above the allocation will be charged separately at the published rate.

SLA / SLG

On the basis that there are no assurances of mobile coverage availability, mobile coverage quality and mobile throughput from the operators, InTechnology does not offer any Service Level Availability or Guarantees.

InTechnology designs and supports the best IP solutions for business with a range of applications seamlessly integrating clients' communications needs through the delivery of secure voice, data and mobile solutions.

InTechnology employs 200 people and has data centres in Harrogate, London and Reading.

Head Office

Central House
Beckwith Knowle
Harrogate
HG3 1UG
Tel: 01423 850 000

London Office

17 St Helens Place
Bishopsgate
London
EC3A 6DG
Tel: 0203 040 5000

Reading Office

Commensus House
3 – 5 Worton Drive
Reading
RG2 0TG
Tel: 0870 777 7778

Enquiries: 0800 528 2522
www.intechnology.co.uk

inTechnology