

SERVICE DESCRIPTION FOR EQUANT LAN ACCESS SERVICE

1. **Overview.** Equant LAN Access is an end-to-end managed service that interconnects Customer's local, regional, or globally dispersed Local Area Networks ("LANs") across Equant's high-speed data communications network. Equant's access protocols of frame relay, X.25, X.28, or PPP may be selected as the companion transport service.

Equant LAN Access is a fully managed, bundled service, which includes procurement, configuration, installation, maintenance, and management of all hardware and software, including the CSU/DSU cables, to support Customer's requirements. LAN Access service supports client-server environments, transaction processing, messaging, high-speed file transfer, and Internet gateways, at multiple access speeds with backup facilities.

Each Equant LAN Access Location communicates across the network using either X.25, Frame Relay, or ATM connectivity, which Customer may select for each router. Connection speeds for X.25 range from 9.6 kbps to 256 kbps, from 64 kbps to 2 Mbps for frame relay, and above 2Mbps to 155 Mbps for ATM and will be configured between each pair of communicating Equant LAN Access Locations. For dial connected Locations, X.28 supports speeds up to 28.8 kbps while Equant Private Dial allows connection speeds up to 56 kbps using PTSN or 128 kbps using ISDN Dial Backup. As part of the service, Equant will be available to assist Customer to determine which access protocol will provide the best solution for each of its Locations.

2. **Standard Features.** Equant's baseline LAN Access service includes design, procurement, installation, configuration, testing, software and hardware maintenance, and life cycle management. Hardware and software upgrades are provided as part of our quality assurance program.

2.1. **Cisco Routers.** Cisco's series 800, 1600, 1700, 2600, and 3600 routers are supplied, installed, commissioned, maintained, and managed on Customer's premises. Cisco series 7200, and 7500 routers for high performance Locations are available upon request. Router models are dictated by service requirements. Equant's service includes the design of the routers' LAN/WAN inter-networking environment.

2.2. **Global Management.** Equant provides global desktop-to-desktop LAN communication services. End-to-end network management includes alarm monitoring, configuration, and problem diagnosis 24 hours per day. All maintenance components of the network are provided by Equant.

2.3. **Integrated Routing.** Routing over the WAN can be either OSPF or EIGRP. OSPF is the default for IP routing and EIGRP is the default for IPX. Both can coexist in a multi-protocol environment but either can be implemented at Customer's request. Integrated routing provides route redistribution into routing protocols such as OSPF, EIGRP, IGRP, and RIP 1 & 2 on Customer's LAN.

2.4. **LAN Protocols Supported.** Supported LAN protocols are TCP/IP, IPX, DECnet, Vines, and Transparent Bridging (Appletalk, DEC LAT, MOP). SNA and X25 are supported via to encapsulation protocol methods (DSLW+ and XoT mechanisms).

2.5. **Multiple Access Speeds.** Speeds available range from 9.6 for X.25 to 155 Mbps with ATM.

2.6. **Integrated Gateways.** Integrated Internet and X.25/frame relay gateways are provided as part of the service.

3. **Optional Features.** In addition to standard features, Equant LAN Access the following service options.

3.1. **X.25/Frame Relay Gateway.** Equant's X.25/Frame Relay Gateway enables Customer to use both X.25 and frame relay technologies to link its LAN Locations. This is possible because the

gateway facilitates the necessary protocol conversions between frame relay and X.25 Equant LAN Access Locations that are connected to Equant's network. Equant offers either public or private X.25/Frame Relay Gateway services.

3.2. **DSL Access.** Digital Subscriber Line (DSL) access enables remote sites to be connected to the LAN Access VPN using xDSL technology, which has country-specific characteristics. If Customer elects to purchase DSL Access, to enable access to the Equant LAN Access Network, Equant will provide, install and manage the DSL router. The traffic from each Location will be aggregated at the country level into a single Frame or ATM PVC bandwidth defined by Customer.

3.3. **Resilient Configuration Options.** Equant offers the following resilient configuration options.

(a) **ISDN Dial Back-Up For Leased Lines.** ISDN Dial back-up for Leased Line option allows service continuity when failure occurs on the local loop between customer Location and Equant access node (X.25, FR or ATM) as illustrated in the Exhibit 4.

(b) **Mission-Critical Locations.** Mission-critical Locations (MCS) options enable Customer to specify a highly resilient LAN router configuration for designated mission-critical Equant LAN Access Locations. Equant implements a dual-router configuration that shares traffic between routers (load balancing mode) or configures one router to handle all traffic with the other in "hot standby" mode. The exact configuration depends on the specific LAN environment. If one router fails, switch-over to the other router is automatic so End User face minimal disruption.

(c) **Warm Standby.** This option provides PSTN/ISDN backup into a dial access port (either PAD or NAS) that the router can use to automatically dial around a faulty router, node or leased line.

(d) **ISDN around the Cloud.** ISDN Around the Cloud option is based on public ISDN service and enables by-passing of the Equant network.

(e) **Selected Locations.** The Selected Locations option enables Customer to retain responsibility for the configuration and management of some of the routers in its Cisco LAN router network while transferring the management responsibility for the other routers to Equant. In both cases, Equant will supply and manage the X.25 or frame relay network connectivity. For those routers that Customer has selected to manage, Equant will initially configure the Equipment to operate in the Equant LAN Access VPN. Customer bears the responsibility for the ongoing operation. At Customer-managed router Locations, Equant will supply and manage the X.25 or frame relay link to these Locations while Customer is responsible for supplying, installing, and supervising the router.

3.4. **Customer SNMP Router Access.** This option provides Customer with read-only access to the Equant LAN Access routers on its VPN. The Equant Simple Network Management Protocol ("SNMP") manager will poll these routers to monitor and determine the status of TCP/IP devices. Equant also provides access to router configuration and statistical information via a Web server. This enables Customer to view parameters that are not available using the SNMP MIBs extracted from the routers' management system. Sensitive information concerning access lists that help protect Equant's management systems is removed prior to presentation on the Web server. Because management responsibility for the routers remains with Equant, access is restricted to read-only.

3.5. **24-Hour Maintenance Coverage.** This option provides maintenance support on a 24/7/365 basis.

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Remote Terminal Access. This option provides Customer the ability to enable its remote users with asynchronous terminal access to dial into their LAN host using our X.28 services.

3.6. **Equant IP Dial.** Equant IP Dial enables Customer's remote stand-alone PC users to have full LAN functionality by accessing corporate LANs via Equant X.28 Dial service. This is accomplished using Cisco's protocol translator feature, which enables the X.25 connected router to act as the point-to-point protocol (PPP) server to all remote users' systems (usually PCs). The PPP is used by the remote PCs to encapsulate the higher-level protocols (e.g., TCP/IP, IPX) over an X.28 connection.

In order to use this option, each remote End User's PC system must be equipped with:

- A high-speed V.32 or V.34 modem
- Full LAN application software (e.g., TCP/IP)
- A PPP protocol stack (e.g., Stampede Remote Office Gold, Windows 95, etc.)

3.7. **Prioritization and Queuing:**

(a) **Custom Queuing.** Custom queuing allows the prioritization of traffic from the LAN Access router into the network according to traffic type. Priority can be set by LAN protocol types. Frame relay traffic shaping is implemented in conjunction with Customer output queuing to provide effective mapping of the underlying frame relay parameters to the transmission characteristics of the Cisco router. This enables the routers to effectively respond to frame relay congestion conditions and that the queuing attributes are implemented.

(b) **Priority Queuing.** In conjunction with Frame Relay traffic shaping, Priority Output Queuing allows the prioritization of traffic from the LAN Access router into the network according to traffic type. This mechanism is designed for environments that focus on mission-critical data. It enables excluding or delaying less critical traffic during periods of congestion, but ensure that the highest-priority data is not delayed by lower-priority traffic during periods of congestion.

3.8. **Managing an Existing Cisco Router Network.** Equant LAN Access is available on a case-by-case basis to Customers who have already implemented a Cisco router network. Subject to a due diligence of the legacy equipment, Equant will maintain and manage the legacy Cisco routers and provide the same features and functionality of full Equant LAN Access.

3.9. **Cascaded Links.** The Cascaded Links feature allows Customer to use a spare or supplementary port on the Equant LAN Access routers to connect serial devices to the VPN. This feature supports encapsulation of X.25 in IP, X.25, and frame relay switching both locally and through to the WAN along with Cisco's HDLC. By using out-of-band management, it is also possible to connect an Equant LAN Access router to the cascaded port to extend Equant's management capability.

3.10. **Dial-on-Demand Routers.** Dial-on-demand routers are reactively managed using an out-of-band management connection. This

enables Customer to connect small Locations that may not be able to justify a permanent connection because of low traffic levels. In addition, it can provide Customer with more rapid deployment in locations where leased lines take a long time to provision.

3.11. **Out-of-Band Management.** Out-of-band management provides Equant with a management path to a Customer's Equant LAN Access router that is not directly connected to the Equant network in addition to directly connected routers as a supplementary path. Out-of-band management enables Equant's management centers to reach dial-on-demand routers or cascaded routers in the event of a failure of the IP path to those routers, enabling diagnosis of problems and rapid service restoration.

4. **Equant WebVision.** Equant WebVision is a secure web-based Service Management application and complements the needs of Customer for easy access to management information on their VPN. Equant WebVision improves the level of customer service to Customer by having the freedom to obtain information on network performance and availability whenever required. Equant WebVision is a collection of service management tools that enable authorized users of Customer to monitor the status and performance of their Equant VPN components via a simple Web browser interface.

5. **Limitations of Equant LAN Access Services.** Security of Customer's Network is enhanced by establishing routing policies, the virtual interface feature, and the use of extended access lists for packet filtering. The detailed configuration of these extended access lists will be agreed with Customer prior to service implementation predicated on specific Location requirements and Cisco's inter-network operating systems (IOS) capabilities. Customer access lists will be implemented on the gate router and will complement Equant's standard access lists. The security of the service will have the following features:

- No spoofing of customer addresses in-bound from the public Internet
- No spoofing of network addresses outbound from a customer

Equant cannot guarantee that a packet from the public Internet is not a "spoof" of another valid public Internet address. Therefore, it is recommended that Customer provide a separate application level firewall for its own protection. To facilitate this, the VPN gate router should be dedicated to the Internet connection.

6. **Acceptance Testing.** Equant will demonstrate the successful end-to-end communication between any two LAN routers provided by Equant with single connections to the Network through a standard router management test. Upon instigation of the test at the near-end router, five (5) test packets will be forwarded, checked and returned from the distant-end router via the Network. At the near-end router receipt of error-free test packets, indicating transmission elapse and time measurement periods between routers, will verify successful end-to-end communication between the two (2) LAN routers involved.

END OF SERVICE DESCRIPTION FOR EQUANT LAN ACCESS SERVICE