



**ProWatch for WANs  
Full Life Cycle  
Service Description  
May 2003**

Service Description NetSolve's ProWatch for WANs is a service for the remote management of WAN network components. The components of the service are described in the NetSolve Responsibilities section below.

### **Definitions**

**Managed Components** – Managed Components consist of the elements listed in the **Supported Equipment** section of this document. To be included as a Managed Component a device must, at a minimum, be SNMP compliant and be on the list of NetSolve supported equipment.

**Network or Network Components** - all NetSolve-provided or approved components, in a network designed or approved by NetSolve utilizing service and equipment providers approved by NetSolve, including the frame relay ports and PVCs, local access to the carrier's frame relay switch, T1 multiplexers, CSU/DSUs, routers (to the router LAN port), and cabling between such units (with the exception Customer premise wiring), which are covered by ProWatch for WAN Full Life Cycle Services under a Customer Service Order (CSO) accepted by NetSolve.

**Link or Network Link** - means the logical connection between two Customer sites covered by ProWatch for WAN Services and consists of all of the Network Components required for connectivity between such sites.

**Managed Interfaces** – is any interface on a WAN Router Device connected to an interface on another Managed Component. All other interfaces will be defined as Non-Managed Interfaces.

**Non-Managed Components:** includes all components not specified as Managed Components including, but not limited to Customer premise wiring, cabling and intermediate distribution frames (IDF).

**Availability or Network Availability** – extends up to and including Layer 3 of the OSI Model, provided that the source of the problem(s) is a Managed Component

The following table provides an overview of the service elements that NetSolve will provide for each Managed Component:

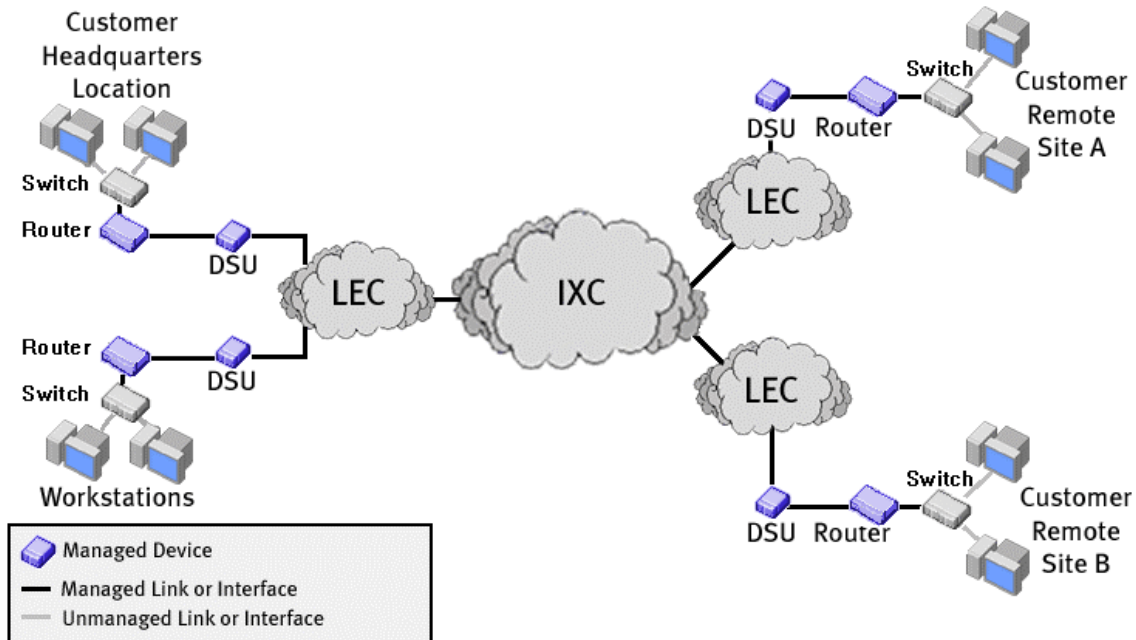
<b>Service Elements included in ProWatch for WAN - Full Life Cycle Management</b>
Project Implementation Management
Information Management
24x365 Proactive Monitoring and Notification
Configuration Management
Fault Isolation
Circuit and Device Problem Resolution
Customer Web Portal
Standard Reporting
Performance Reporting
Dispatch Mgmt.
Change Mgmt.
Customer Engineer
Engineering Analysis
VPN Management

## Referenced Documents

The following NetSolve documents are referenced in, and are considered part of, this Service Description:

DOCUMENT TITLE	REVISION DATE
NetSolve - Moves, Adds and Changes	August 2003

The following diagram illustrates the Managed Components for NetSolve's ProWatch for WANs - Full Life Cycle Service:



## NetSolve Responsibilities

### 1. Project Implementation Management

The Project Implementation Management fee is not optional. Each new Managed Device is classified as new or existing for implementation purposes and priced accordingly. Staging and Integration Services and On-site Installation Service are optional services priced and sold separately and are not part of Project Implementation Management.

NetSolve will perform the following Project Implementation Management functions for existing devices:

- Work with Customer to develop an implementation schedule for each Managed Component.
- Manage the entry of the Customer's Managed Component information in the applicable NetSolve databases.
- Test and accept each Managed Component for ongoing Fault Management coverage.

Notwithstanding NetSolve's installation coordination role, Customer at all times retains responsibility for the performance of its vendors to the Project Implementation schedule and informing such vendors of their responsibilities.

In the event of rescheduling requested or necessitated by Customer or Customer's vendors, Customer agrees to pay NetSolve its standard rescheduling fees for each device that requires rescheduling with less than seven (7) days advance notice. On-site installations rescheduled with 48 hours or less notification will result in cost plus fees and are beyond the normal installation-rescheduling fee.

## **2. Information Management**

NetSolve will maintain an information repository of data with respect to the Customer and the Managed Components as necessary for NetSolve to perform its responsibilities as stated in this service description.

The following information is the minimum data retained by NetSolve:

### **Customer Site Information**

- Site physical address (street address, city, state, zip code)
- Site contact information (phone, pager, e-mail)
- Notification procedure

### **Managed Component Information**

- Vendor Name, Model Number, Serial Number, provided by the Customer or reseller in a format specified by NetSolve.
- Device-specific configuration settings
- Archive configuration for each router
- Passwords and authentication settings
- Equipment maintenance information
- Carrier and circuit information for any managed circuits

### **Network Management Information**

- IP Address(s) and Network Mask
- SNMP Community String(s)

## **3. 24x365 Proactive Monitoring and Notification**

NetSolve will monitor the up/down status of all Managed Components from the NetSolve network management center ("NMC") 24 hours per day, 7 days per week.

Upon receipt of an alarm at the NMC from a Managed Component, or a call from the Customer indicating a network outage or performance issue, a Trouble Ticket will be opened and an NMC technician will initiate fault isolation procedures. NetSolve will use all reasonable efforts to restore service expeditiously, electronically notify the Customer's designated contact(s) of the outage and provide the Customer access to ProWatch Exchange for periodic status updates. Notification will be through e-mail, pager or both. The Customer can view Trouble Ticket status through ProWatch Exchange described below. If additional information is required the Customer can call the NMC.

## **4. Configuration Management**

NetSolve will maintain Managed Component configurations and make changes to repair outages, meet customer networking needs or improve performance. Customer-requested configuration changes are subject to NetSolve's approval.

In order to provide for the optimum performance and reliability of the WAN, software upgrades may be periodically required. NetSolve will track the bug lists, release notes, and feature lists associated with each vendor's product and make upgrade recommendations. NetSolve will recommend to the Customer when to upgrade to newer releases of

software and firmware, and remotely install software upgrades that the Customer is entitled to under applicable maintenance agreements or which are provided by the manufacturer to correct defects. Recommended upgrades requiring additional software/firmware, additional or upgraded hardware, or on-site installation as approved for purchase by the Customer, will be at Customer's expense.

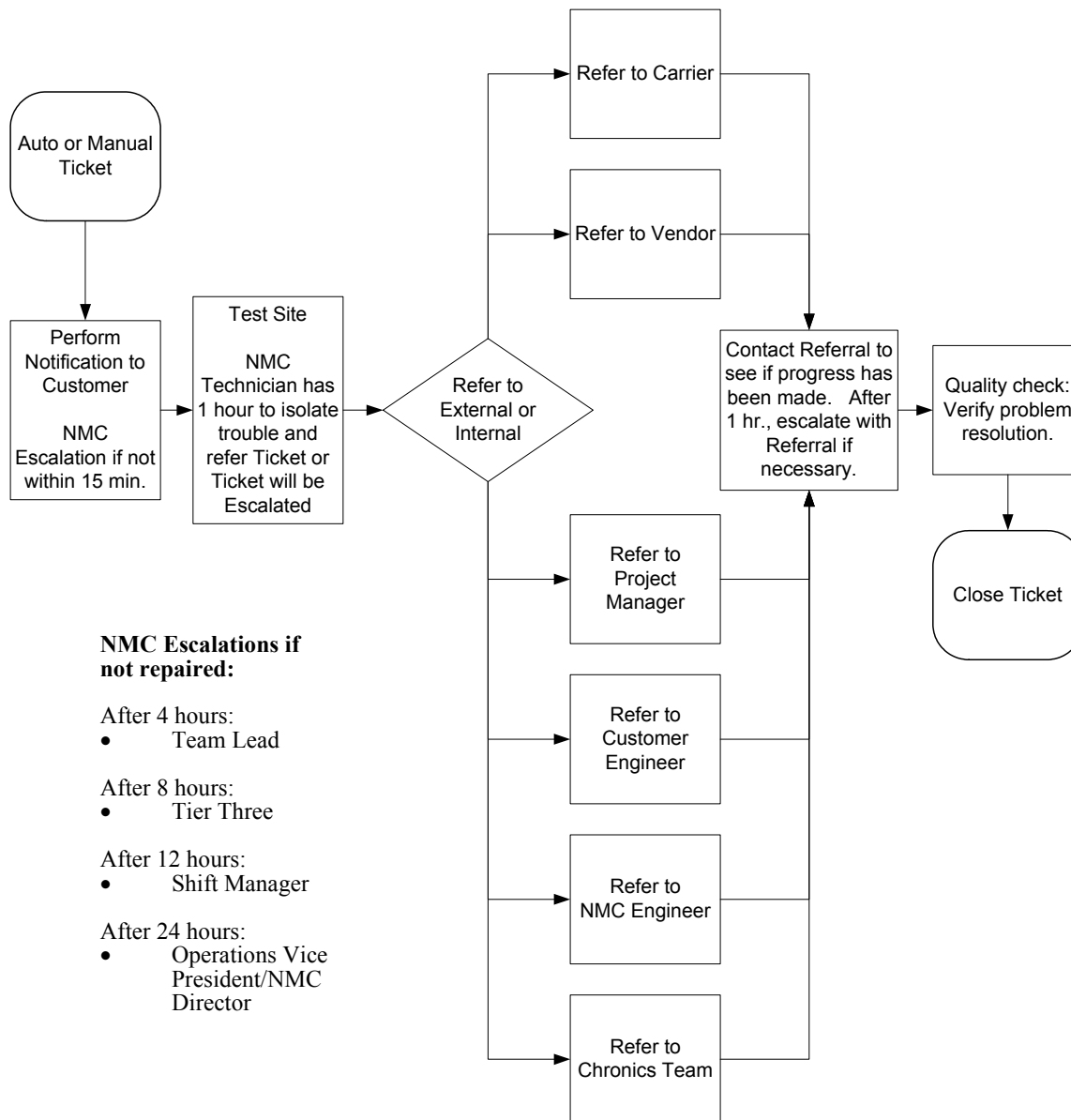
Additionally, NetSolve will perform and/or manage the moves, adds and changes (MACs) of the Managed Components for the Customer. All configuration change requests are subject to the procedures and fees established in **NetSolve's Moves, Adds, Changes** document.

## **5. Fault Isolation**

NetSolve will escalate trouble tickets on a standard schedule based upon target fault isolation and resolution times. While the escalation is automatic, Customer may request escalation within NetSolve at any time. Upon isolation of the fault, NetSolve will dispatch the appropriate service entity (Customer's contact or equipment maintenance provider --- See the Dispatch Management section below).

The following diagram is an illustration of the ticket management process in the Network Management Center:

Network Management  
Center  
**Ticket Management**



**6. Circuit and Device Problem Resolution**

Once fault isolation has occurred and the trouble has been classified as a connectivity issue or a device issue (hardware or configuration), NetSolve will work until the issue is resolved. NetSolve will refer open tickets to the customer's equipment maintenance vendor or the customer's carrier (when necessary) and will work with the appropriate vendor and the customer to resolve the issue and close out the ticket.

## **7. Customer Web Portal**

The customer will have access to ProWatch Exchange, NetSolve's customer web portal. Through the Web portal, the customer will have access to device information, trouble tickets and will be able to view the specific reports listed in the standard reporting section below.

NetSolve will provide two portal training sessions per month that the customer can attend. The training sessions will be done remotely (via a conference call and a web demonstration).

## **8. Standard Reporting**

The Customer may access ProWatch Exchange, NetSolve's web-based tool, for the following information on all Managed Components:

- Implementation Status
- Active Network Map
- Network Inventory
- Trouble Ticket Query
- Invoices Query

## **9. Managed Component Performance Reporting**

- On-demand Performance Reports
  - WAN Interface Utilization
  - WAN Interface Errors
  - WAN Interface Non-Unicast Traffic
  - Frame Relay PVC FECN/BECN
  - Frame Relay CIR Utilization
  - ATM VC Throughput
- Monthly Exception Reports
  - WAN Interface Low Utilization
  - WAN Interface High Utilization
  - WAN Interface Error Exception
- Network Availability Reporting
  - Summary
  - Detail

## **10. Dispatch Management**

NetSolve provides dispatch management for customers in two separate categories: *Carrier Dispatch Management* and *Equipment Vendor Dispatch Management*.

For *Carrier Dispatch Management* NetSolve will work with the customer's carrier to resolve any circuit related faults and, when necessary, will coordinate the dispatch of carrier technicians.

For *Equipment Vendor Dispatch Management* NetSolve will work with the customer's equipment vendor and/or equipment maintenance vendor to resolve any device related faults and, when necessary, will coordinate dispatch of equipment/maintenance vendor technicians.

## **11. Change Management**

Physical and logical Moves, Adds and Changes are included as a part of this service. Please refer to the "NetSolve - Moves, Adds and Changes" document for definitions and other information.

## **12. Network Engineer**

As a part of the WAN Full Life Cycle Service, each customer will be assigned a Network Engineer. The Network Engineer is available by phone to help customers in the following areas:

- Design Assistance & Validation
  - Provide recommendations on current WAN design/configuration
  - Assist customers with implementing new WAN features and/or technologies pertaining to WAN performance and/or reliability
  - Validate WAN design recommendations for functionality and feasibility against known best practices. (This does not include designing new networks from the ground up. Please see “**NetSolve Professional Services Price List**” for more information regarding new network design services)
- Network Availability & Performance Analysis
  - Provide recommendations based on analysis of utilization, error and availability reports
  - Focused on improving availability and performance of the WAN
  - Assists in translating performance-based reports into business impact
- Configuration Change Management
  - Handle all Managed Device configuration changes (There are no extra charges for configuration changes on managed components)
  - Can include planning, validation, testing and implementation
  - All configuration changes are tracked using NetSolve's ticketing system and are viewable on NetSolve's customer portal
  - Security best practices are followed for all configuration changes
- Assist Customers with Technical Direction
  - Analysis of customer's business requirements and network environment to ensure that the appropriate WAN technical solutions are in place
  - Advise customers on implementation of new WAN features and/or technologies
  - Discuss the impact of making changes to the WAN environment
- Solve Complex Technical Issues
  - NetSolve has experts in most WAN technologies on staff the can be utilized to help isolate and resolve more complex issues, including routing issues and hardware failures
  - The Network Engineer is also available to help troubleshoot WAN performance issues, including protocol connection problems, top talkers and hardware resource depletion
- Identifying, Planning and Implementing Software Upgrades
  - Identify managed devices that need software upgrades for new features or functionality, bug fixes, or network consistency
  - Track bug defect lists and ensure hardware/software compatibility prior to implementation
  - Deploy new Managed Device software using standard configuration upgrade procedures as described in section 4 – Configuration Management

## **13. Engineering Analysis**

Customers will receive network recommendations based on analysis of the Managed Component's Utilization and Error Exception Reports provided monthly. These recommendations will be focused on maintaining availability and optimal ongoing performance of the Managed Components. Performance recommendations and analysis can be accessed by the Customer, monthly, through ProWatch Exchange.

NetSolve will also track for WAN locations with chronic problems. For this purpose a chronic is defined as a Managed Component with three Trouble Tickets in a thirty-day period. This process is intended to proactively identify, notify and resolve WAN locations with recurring problems.

## **Optional Services**

### **1. Staging and Integration**

NetSolve will perform the following staging and integration services when purchased separately.

- Track and report systems integration status to Customer or reseller in a format selected by NetSolve and follow-up with the appropriate parties to reschedule if dates are missed or change through ProWatch Exchange.
- Configure hardware/software, user-configurable settings, IP addresses and perform self-test operability of the assembled equipment components.
- Ship complete units to requested location designated by the Customer or reseller.

### **2. Installation Service**

NetSolve will provide, schedule and dispatch appropriate on-site installation personnel and execute on-site installations when specifically requested and purchased separately.

### **3. Professional Services**

NetSolve will provide engineering resources for network design, configuration changes and troubleshooting when specifically requested and purchased separately. Customer will not have permanently assigned engineering resources; they will be assigned per incident. Please refer to the “**NetSolve – Professional Service Price List**” for definitions and other information.

### **4. Project Implementation Management**

NetSolve will perform the following additional Project Implementation Management functions for new devices and provide installation-tracking information through ProWatch Exchange when specifically requested and purchased separately.

- Schedule, coordinate and sequence equipment and network vendors to install the Managed Component and any related services.
- Coordinate testing with equipment vendors and Customer to ensure operation of all Managed Components as each completes its portion of the install and then proceed with the existing device procedure above.
- Track the status of each device installation to the schedule and follow up with equipment vendors, carriers and Customer to reschedule if dates are missed.

## **Customer Responsibilities**

- Customer is responsible for providing NetSolve with changed data, as often as needed, in a format specified by NetSolve, with respect to Customer and Managed Components as necessary for NetSolve to perform its responsibilities as stated in this Service Description. This includes but not limited to: site contact (including any applicable escalation lists and off-hours contacts), password access to all devices and technical information reasonably required by NetSolve to perform its responsibilities.
- Customer is responsible for managing the LAN (defined as equipment and services located on the LAN side of the router), the physical cable plant, all server, workstation, and applications management and any other items which are not Managed Components. In the event that, in connection with its monitoring and fault management services, NetSolve isolates the problem to be beyond the Managed Components, a NetSolve network engineer will consult with Customer and obtain written authorization prior to performing additional work, which will be at NetSolve’s standard rates for Professional Services. In the event such work is approved and the problem is finally determined to be with a Managed Component, no such additional charges will be incurred by Customer
- Customer must install dedicated 1FB phone lines, or dedicated PBX extensions with DID capability, prior to the installation date at each site covered by ProWatch for WANs Services to allow dial-in access to each Managed

Component per site by NMC personnel. These lines must be connected to a dedicated dial modem provided by the Customer or purchased separately from NetSolve.

- Customer must provide a shared Frame Relay access circuit and a dedicated Frame Relay PVC for a management channel, from the hub site(s) of the Customer network, as required by NetSolve.
- If the Dial Backup services are required, the Customer may have NetSolve manage the implementation of Dial Backup services. The base implementation option requires the Dial Backup circuits (ISDN, ASYNC or SYNC POTS) available simultaneous with the primary circuit installation. If the Dial Backup circuits are not available during the frame relay installation a second implementation charge will be incurred.
- Customer is responsible for hardware and software maintenance coverage for all equipment included in Managed Components. Customer may obtain this maintenance from a third party or NetSolve, or may self-maintain.
- If Customer elects to have NetSolve dispatch Customer's equipment maintenance or other service providers in the event of a Managed Component failure, Customer must arrange with those providers to allow NetSolve to troubleshoot, diagnose, dispatch provider's technicians on Customer's behalf, and otherwise perform all of its responsibilities hereunder for any Managed Components not provided by NetSolve.
- Customer must provide NetSolve with notice of any changes which Customer intends to make to the Managed Components before such changes are made in accordance with an agreed upon change management process.
- Customer must obtain registered IP addresses for applicable Managed Components or agree to use unregistered IP addresses assigned by NetSolve. All addressing plans must be approved by NetSolve. NetSolve may also require a secondary addressing scheme if there are addressing conflicts.
- Customer must ship Managed Components requiring configuration at NetSolve's Staging and Integration facility to NetSolve, freight pre-paid, unless such devices are purchased from NetSolve. NetSolve will invoice Customer for freight charges to ship equipment to Customer locations (FOB NetSolve).

### **Network Availability**

Network availability extends up to and including Layer 3 of the OSI Model, provided that the source of the problem(s) is a Network Component, and is calculated as follows:

$$\text{Availability} = 1 - \frac{\text{Total Downtime (in minutes) for all Network Links}}{(\# \text{ of minutes in month}) \times (\text{Total Network Links})}$$

NetSolve warrants that Network Availability will be equal to or greater than 99.5% for each month during the Service Term. In the event such Network Availability goal for any given calendar month is not achieved, NetSolve will credit Customer 50% of the ProWatch for WANs charges for that month, up to a maximum credit of \$10,000 if the cause is a carrier outage beyond NetSolve's reasonable control, or up to a maximum credit of \$20,000 for all other covered causes (see exclusions from covered causes below).

For purposes of determining whether the monthly Network Availability goal is met, Downtime excludes outages resulting from (i) VPN sites; (ii) failures of any facilities, equipment, services, or the like which are not Network Components, including but not limited to LAN components; (iii) failure of Customer to perform its responsibilities defined in this document, or any fault, negligence, operator error, act or omission of Customer, including the supplying of inaccurate information to NetSolve; (iv) unavailability of Customer personnel to grant NetSolve access to Customer facilities; (v) failure of equipment or carrier facilities at headquarter / hub locations unless redundant equipment, and redundant and diverse carrier facilities are in place and operating; (vi) unavailability of any other required (per the NetSolve-approved network design) dial back-up or other redundant facilities or equipment; (vii) failure of equipment not covered by a maintenance agreement with NetSolve unless Customer or its third party maintenance provider restores the equipment within agreed upon timeframes; (viii) mass outages, defined as catastrophic outages of Customer's carrier's network affecting multiple end users, beyond NetSolve's reasonable control; or (ix) locations outside continental United States.

In addition to the Network Availability credits described above, NetSolve warrants that the services shall be performed in a workmanlike fashion. In any month in which Customer, in Customer's sole opinion, believes NetSolve has breached this

warranty, NetSolve will credit Customer up to one-hundred percent (100%) of the service fees for that month for the Pro Watch for WAN services (less any Network Availability credits issued for that month). In order to receive this credit, Customer must notify NetSolve in writing within thirty (30) days following the end of the month the services were provided stating (i) the reason Customer is dissatisfied with the services and (ii) the amount of the service fees customer requests to be credited. Upon receipt of such notice, NetSolve will credit Customer the requested amount (up to the limits above) on the next billing cycle. This credit (and the Network Availability credits) will constitute Customer's sole and exclusive remedy for breach of warranty. Other than for the Network Availability credits, NetSolve shall not be obligated to credit Customer an aggregate amount exceeding two month's service fees in any twelve month period, or an aggregate amount exceeding three month's service fees in any eighteen (18) month period, but may elect to do so based on Customer's request.

EXCEPT AS EXPRESSLY SET FORTH ABOVE, NO WARRANTY OF ANY KIND IS MADE WITH RESPECT TO THE NETWORK COMPONENTS OR THE USE OR OPERATION OF THE NETWORK, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

## Supported Equipment

### Supported Routers:

Manufacturer	Manufacturer Model	Special Instructions
<b>Cisco Routers</b>	800 series	Supports VPN applications*
	1600R	Existing networks only
	1700 series	Supports VPN applications*
	2500 series	Existing networks only
	2600 series	Supports VPN applications*
	3600 series	Supports VPN applications*
	4000 series	Existing networks only
	4500M series	No support for VPN applications
	4700M series	No support for VPN applications
	7100 series	Supports VPN applications*
	7200 series	Supports VPN applications*
	7500 series	Supports VPN applications*
<b>Nortel Networks/ Bay Routers</b>	Access Stack Node Backbone Node (BCN, BLN) BayStack Access Node/Access Node Hub BayStack ARN	
<b>3Com Routers</b>	OfficeConnect NETBuilder NETBuilder II Routers SuperStack II NETBuilder SI	Existing Networks Only

\*May require additional encryption module for VPN applications

All router models require Y2K compliant operating system.

Preferably, use an internal CSU/DSU. External CSU/DSUs require a smart switch or reverse telnet cable.

### Supported Transport Technologies:

Supported transport technologies include; Frame Relay, Private Line, ATM, SMDS, ISDN, Internet, VPN

### Supported Transport Providers:

#### **Inter Exchange Carriers**

AT&T, WorldCom, Sprint, Espire, Qwest, Broadwing, Equant, Concert, Global Crossing

#### **Local Exchange Carriers**

SBC, US West, Verizon, Bell South, PRTC, Cable and Wireless

NetSolve will manage frame relay transport from any provider. If the transport provider is not listed above, implementations may be extended.

**Please Note: Operating hours of international transport providers may impact NetSolve's ability to repair an outage.**

### Supported Protocols:

The following are the protocols supported by NetSolve:

- Link Access Protocols  
PPP, HDLC, SDLC, ISDN, LAPB
- Network Protocols  
TCP/IP, IPX, AppleTalk, NetBEUI/NetBIOS
- IBM SNA Legacy  
LLC2, SRB/SRTB, STUN, DLSW+, APPN