



**ProWatch for WANs
Fault Management
Service Description
May 2003**

Service Description NetSolve WAN Fault Management is a remote network management service. The components of the service are described in the NetSolve Responsibilities section below.

Definitions

Monitored Components - To be included as a Monitored Component a device must, at a minimum, be SNMP compliant and be on the list of NetSolve supported equipment described in the **Supported Equipment** section of this document. NetSolve will not manage these devices, they will only be monitored under the ProWatch for WAN – Fault Management Service.

Link or Network Link - means the logical connection between two Customer sites covered by ProWatch for WAN – Fault Management Service and consists of all of the Monitored Components required for connectivity between such sites.

Non-Managed Components: includes all components specified as Monitored Components including, but not limited to Routers, CSUs, DSUs, LAN switch infrastructure, Customer premise wiring, cabling and intermediate distribution frames (IDF). NetSolve will not manage these devices, they will only be monitored under the ProWatch for WAN – Fault Management Service.

Downtime: the total time in a given month, measured in minutes for each Network Link, that a Network Link is not available to Customer.

Circuit Availability – extends up to and including Layer 2 of the OSI Model, provided that the source of the problem(s) is not a Non-Managed Component

The following table identifies the service elements that NetSolve will provide for the WAN Fault Management Service:

Service Elements Included in WAN Fault Management
Project Implementation Management
Information Management
24x365 Proactive Monitoring and Notification
Fault Isolation
Circuit Problem Resolution
Customer Web Portal
Standard Reporting
Dispatch Mgmt.

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

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 Monitored 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
- Usernames & Passwords
- Carrier and circuit information for any managed circuits

Network Management Information

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

3. 24x365 Proactive Monitoring and Notification

NetSolve will monitor the up/down status of all Monitored Components from the NetSolve Network Management Center ("NMC") 24 hours per day, 7 days per week.

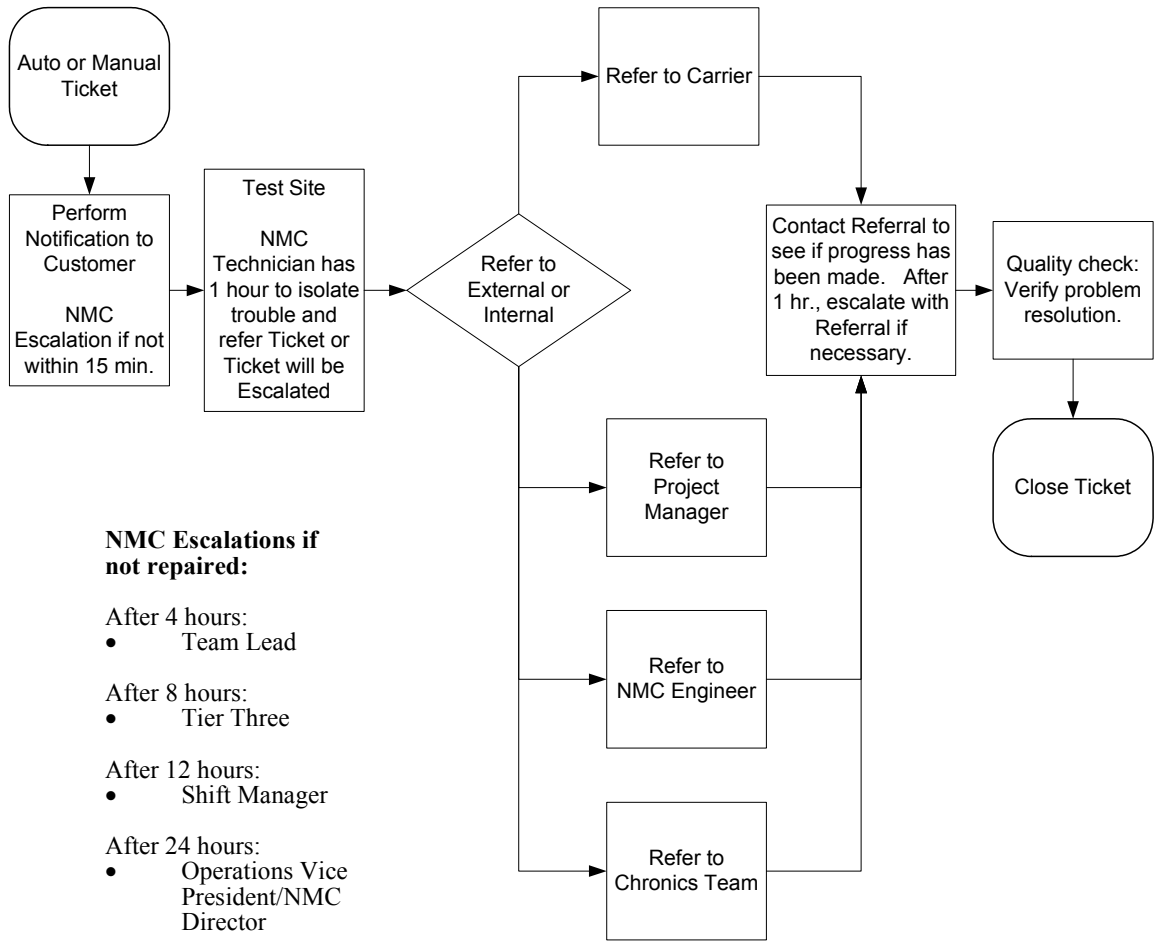
Upon receipt of an alarm at the NMC from a Monitored Component, or a call from the Customer indicating a network outage, a Trouble Ticket will be opened and an NMC technician will initiate fault isolation procedures. NetSolve will use all reasonable efforts to restore service expeditiously, electronically 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. **Fault Isolation**

NetSolve will escalate trouble tickets on a standard schedule based upon target fault isolation times. While the escalation is automatic, Customer may request escalation within NetSolve at any time. Upon isolation of the fault, NetSolve will determine if the fault is related to a circuit issue. If the NetSolve NMC technician determines that the issue is circuit related, then resolution procedures as defined below in Circuit Problem Resolution will be followed. All other fault issues will be referred to the customer.

The following diagram is an illustration of the ticket management process in the Network Management Center: For WAN Fault Management, NetSolve will only refer circuit related fault issues to carriers. All other issues will be referred to the customer.

Network Management
Center
Ticket Management



5. Circuit Problem Resolution

Once fault isolation has occurred and the trouble has been classified as a circuit issue, NetSolve will refer open tickets to the customer's carrier and work with the carrier and the customer to resolve those issues.

6. 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).

7. Standard Reporting

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

- Implementation Status
- Active Network Map
- Network Inventory
- Trouble Ticket Query
- Invoices Query
- Circuit Availability Reporting
 - Summary
 - Detail

8. 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. NetSolve will not coordinate dispatch of vendor equipment or vendor technicians.

9. Change Management

Physical and logical Moves, Adds and Changes are not included as a part of this service. Please refer to the "NetSolve - Moves, Adds and Changes" document for definitions and other information.

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 Services 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 Monitored 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 Monitored 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 Router, CSU/DSU and 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 Monitored Components. NetSolve will provide engineering resources for configuration changes and troubleshooting of non-managed components when specifically requested and purchased separately.
- 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 access circuit for a management channel, from a hub site(s) of the Customer network, as required by NetSolve.
- Customer is responsible for hardware and software maintenance coverage for all equipment included in Monitored Components. Customer may obtain this maintenance from a third party, NetSolve or may self-maintain.
- Customer must provide NetSolve with notice of any changes which Customer intends to make to the Monitored Components if those changes affect the elements used for polling (such as IP addresses) before such changes are made in accordance with an agreed upon change management process.
- Customer must obtain registered IP addresses for applicable Monitored 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 Monitored 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).

Circuit Availability

Circuit availability extends up to and including Layer 2 of the OSI Model, provided that the source of the problem(s) is a circuit, 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 Circuit Availability will be equal to or greater than 99.5% for each month during the Service Term. In the event such Circuit Availability goal for any given calendar month is not achieved, NetSolve will credit Customer 50% of the WAN Fault Management 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 Circuit Availability goal is met, Downtime excludes outages resulting from (i) VPN sites; (ii) failures of any facilities, services, or monitored components including but not limited to Routers, CSUs, DSUs, LAN switch infrastructure, Customer premise wiring, cabling and intermediate distribution frames (IDF); (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) mass outages, defined as catastrophic outages of Customer's carrier's network affecting multiple end users, beyond NetSolve's reasonable control; or (viii) locations outside continental United States.

In addition to the Circuit 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 WAN Fault Management services (less any Circuit 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 Circuit Availability credits) will constitute Customer's sole and exclusive remedy for breach of warranty. Other than for the Circuit 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 MONITORED COMPONENTS OR THE USE OR OPERATION OF THE NETWORK, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Supported Equipment

Manufacturer	Manufacturer Model	Special Instructions
Cisco Routers	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	No support for VPN applications
Nortel Networks/ Bay Routers	Access Stack Node Backbone Node (BCN, BLN) BayStack Access Node/Access Node Hub BayStack ARN	
3Com Routers	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. External CSU/DSUs require a smart switch or reverse telnet cable.

Supported CSU/ DSUs:

All T-1 CSU's with a console port for remote access (i.e. dial-up or telnet). Examples include models of ADC Kentrox*, Adtran, Larscom, Paradyne, Verilink* and Visual Networks that support Frame Relay networks.

- Optional Staging and Integration services are not available for ADC Kentrox and Verilink at this time.

Supported Transport Technologies:

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

Please Note: Operating hours of international transport providers may impact NetSolve's ability to repair an outage. Selected transport provider must support English language.

Supported Protocols:

The following are the protocols supported by NetSolve:

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