



**ProWatch for SIPT
Full Life Cycle
Service Description
August 2003**



ProWatch® for Small-scale IP Telephony Full Life Cycle

SERVICE DESCRIPTION

NetSolve's Small-scale IP telephony (**SIPT**) solution provides remote operations support services for IP telephony (IPT) applications based on Cisco's Architecture for Voice, Video, and Integrated Data (AVVID®). AVVID integrates telephony functions onto IP-based Local Area Networks (LANs) eliminating the need for PBX equipment and enabling converged applications. ProWatch for SIP Telephony is intended for use in conjunction with an AVVID IP Telephony Certified Cisco Partner that provides Plan, Design, Implement (PDI) services. Operations (O) consists of the ongoing management and reporting services for an IP network and its IPT functionality as described in this **Service Description** after the PDI activities are complete.

SIPT is a subset of NetSolve's ProWatch for IP Telephony service for customers with up to 5 sites and 250 phones.

24x365 Network Management: Remote IPT fault management and Operations support is provided on a 24 hour per day, 365 days per year basis from NetSolve's Network Management Center (NMC) in Austin, Texas. In addition, remote engineering support is available from 7:00 am to 7:00 pm (Central time) and for emergency escalation. The services include:

- Remote CallManager and Unity voicemail application management
- Remote Quality of Service (QoS) management
- Remote IP Telephony and LAN management
- Remote WAN and PSTN access trunk management

Web-Based Electronic Reporting: ProWatch Exchange is NetSolve's Web portal that provides customers and associated service partners with detailed network management, performance, and inventory information about a customer's LAN and IPT network. ProWatch Exchange provides access to the following information:

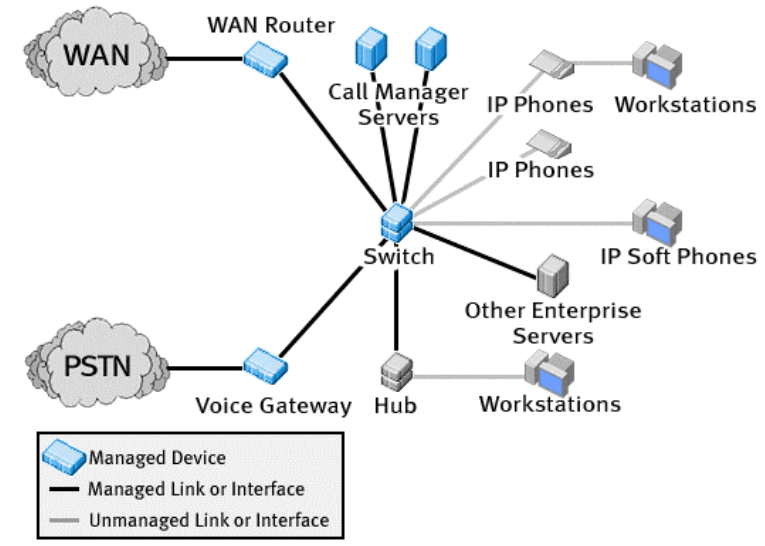
- Managed Component inventory (IPT Servers, gateways, switches, and routers)
- Server, LAN/WAN, QoS and Availability and Performance reports
- Interface Exception reports
- Server system parameter exception reports
- Trouble Ticket and event tracking

Referenced Documents

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

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

Overview The following diagram illustrates the Managed Components at a Managed IPT Site:



Scope of Service Definitions

A **Managed IPT Site** consists of at least one IP telephone or Soft IP phone application that is associated with two or more redundant CallManager Servers either at the Managed IPT Site or at another Managed Site connected via a NetSolve-managed WAN. Each site typically will have at least one analog or digital Voice Gateway to the Public Switched Telephone Network (PSTN), at least one LAN switch with Ethernet ports and at least one WAN router function with or without IP Toll Bypass capability. Except for the IP telephones and IP Soft Phones, all of these components are Managed IPT devices. In some cases all or most of these devices may be housed in a multifunction chassis that may include other special AVVID devices or modules.

IP Telephony Application Support is provided for IP telephones. NetSolve remotely manages the dialing plans and software configurations for all IPT Managed Components in order to support all of the IP Telephones at an IPT Managed site. AVVID IP telephones may be physically moved to any Ethernet port on a Managed IPT Site without any logical updates. IP Telephone feature configuration changes are provided remotely by following the logical change process in the **NetSolve's Moves, Adds, and Changes** document (MACs). Customers are responsible for providing for IP telephone maintenance or replacement.

IPT Managed Components (Managed Components) consist of the devices and interfaces listed below. To be included as an IPT Managed Component a device must be SNMP compliant and be on the list of NetSolve supported equipment at the order date. See the **Supported Equipment** section of this document for more details.

Managed IPT Devices:

IPT CallManager and Unity Servers are servers whose software application manages the telephony uses of the Site's LAN to which they are connected. The devices may be a stand-alone servers or modules in a multi-function chassis. Redundant Cisco CallManager Servers are required to maximize application availability.

IPT Voice Gateway is a device connected to an Ethernet port at a Managed IPT Site that provides IP-based access to digital or analog trunks on the PSTN network under the control of the AVVID CallManager. The Voice Gateway may be a stand-alone device, a PSTN access module in a multifunction chassis, or a PSTN module in an IPT LAN switch.

IPT Toll Bypass Device is a router or router-like device connected to an Ethernet port at a Managed IPT Site that provides for Voice-over-IP connections across a WAN. The WAN transport could be by ATM, Frame Relay, Private Line or Packet over Sonet. The Toll Bypass Device may be a stand-alone device, or a WAN access module in a switch or multifunction chassis.

AVVID Modules are devices or chassis plug-ins that perform other functions at an IPT site. These modules could be Cisco Conference Center (CCC), Personal Assistant (PA), IPCC Express, IPCC Enterprise servers or other Video, or AVVID

functions. These AVVID modules may be supported for additional cost. Some of these are specifically covered in the APPENDICES.

IPT LAN Device is a LAN switch or router switch module with Ethernet ports that can be reached via a remote management channel and supports AVVID voice or video over IP functions. A Core LAN Device can be reached via the management channel through at least two diverse connectivity paths. An Edge LAN Device may only be reached via the management channel through a single connectivity path.

Managed IPT Interfaces:

Managed IPT Link Interface is any interface on a Managed IPT Device that is connected to an interface on another Managed IPT Device or a Managed Device under any other NetSolve ProWatch service offering.

Non-Managed IPT Interface is an interface on a Managed IPT Device that is not a Managed IPT Link Interface or Managed IPT Port Interface. These are connected to Non-Managed Devices such as, hubs, printers, PCs or IP telephones. IP telephones and Soft IP phones may be connected to any Ethernet IPT Port Interface on a managed IPT LAN Device.

Non-Managed Components are any components not specified as Managed Components, including but not limited to Customer premise wiring, cabling and intermediate distribution frames (IDF). IP telephones or Soft IP phones are also considered Non-Managed Components.

The following table provides an overview of the Service Elements that NetSolve will provide for each Managed Component. The detailed components of the remote management service are described in the **NetSolve Responsibilities** section of this Service Description.

Service Elements	CallManager and Unity Servers	Other Managed IPT Devices (Except AVVID Modules)	Other IPT Port Interfaces	AVVID Modules See Appendices for CCC, PA, IPCCX, etc.
Network Design Verification	X	X	X	X
Operations Implementation Management	X	X	X	X
Information Management	X	X	X	X
Configuration Management	X ⁽¹⁾	X	X	X
24 x 365 Proactive Monitoring and Notification	X	X	-	X
Managed Component Fault Resolution ⁽²⁾	X	X	-	X ⁴
Performance Reports	X	X	X	X ⁽⁴⁾
Managed Device Reports	X ⁽³⁾	-	-	X ⁴

(1) AVVID servers are configured to back-up nightly within the customers domain.

(2) Fault isolation for Managed IPT Port Interfaces does not extend beyond the managed port

(3) CallManager reports include Server Platform statistics and CallManager statistics

(4) Level of Fault Resolution and Reporting varies across services. See Appendices for details.

Additional Definitions:

Active Telephone Count - Any active telephone number or extension registered with a supported Call Manager will count as an active IP Phone when selecting appropriate SKUs per the NetSolve price list. These can be Cisco-approved IP Phones, analog phones or FAX machines connected through gateways, registered wireless IP Phones, or soft phones. In general, each counted phone is associated with a MAC address.

Managed Site Definition – An IPT site may be a single location or a campus environment provided that all of the connected devices and phones are connected by LAN links at 100 Megabits per second or higher. If a phone or device reaches a Call Manager or Gateway through a router or over a WAN connection then that phone or device is deemed to be at a different site.

Soft Phone Support – Both Soft phones and hard phones are supported by this service but that does not include application support for soft phone. Soft phone is an application that runs on a separate PC or server. If in the course of isolating an IPT event, NetSolve concludes that the problem is beyond Call Manager, Unity mailboxes, and the IPT data infrastructure and is likely associated with a soft phone application, it will be the customer's responsibility to debug, upgrade or modify the software, application, or PC hardware to correct the problem.

Device Counts: Call Manager server, Unity servers, routers, switches and stand alone gateways constitute devices for the purpose of device maximums. Gateways that are modules within another counted chassis are not counted as devices. Otherwise Integrated platforms will be counted as multiple devices. For example, a Cat 4224 will count as 2 devices, a ICS 7750 will counted as 4 devices and 24 port switches supporting IP Phones as distribution switches may be counted as ½ device each. See the NetSolve Supported Device list for Device Count details.

Complex Redesign of CallManager or Unity features – ProWatch for SIPT is a remote operational support service. It is assumed that dial plans, configurations, and business oriented scripting have been previously implemented prior to the commencement of ProWatch for SIPT support. Under the service, these existing features will be supported and evolved. Complex projects such as a redesign of a dial plan to enable a previously un-used feature like extension mobility will be charged on a separate per-project basis.

Quarterly IP Telephony Phones in Service Update Process. After the initiation of ProWatch for SIPT for a customer, the number of IP Telephony Phones in Service in each Call Manager cluster will be reviewed during the last month of each calendar quarter and the number of billed IP Telephony Phones in Service will be adjusted accordingly. A report detailing the registered IP Phones is available in ProWatch Exchange. The IP Telephony Phones in Service is the peak value in this report plus any FXS connected phones or modems whose call processing is done by the CallManager. Adjustments in the number of phones will be effective for, and reflected in subsequent billing periods. If the total number of phones actually under management in a quarter exceeds 150% of the amount billed, NetSolve may, at its option, bill the change retroactively. Any additional NetSolve charges will be at the contracted rates and discounts in effect for the services. Quarterly adjustments will reflect both upward and downward adjustments subject to the initial number of phones ordered that comprises a minimum. If ProWatch for SIPT Service minimums are applicable to both the prior and revised IP Telephony Phones in Service count, no adjustment will be made.

CDR Records – ProWatch for SIPT does not utilize or process Call Detail Records in order to provide its services. ProWatch for SIPT is focused on operational support of the various IPT applications on the underlying data infrastructure and derives its management parameters entirely from other sources. Several authorized Cisco partners can provide software for Call Detail Record processing and these packages provide various capabilities for interfacing existing Call Detail Accounting packages.

Voice Mail Support:

IPT Unity Server is a server connected to a LAN whose software application manages voice mail messages for the Call Manager Servers. The Unity Server is supported in 3 different configurations as defined below and non-Unity voice mail support is also defined.

Voice Mail Configurations:

Unity Voice Messaging only is a configuration where the Unity server only handles voice mail messages. The Unity server must be connected to the LAN for administration purposes. Subscribers check messages by phone only.

Unity Unified Messaging One Exchange Server is a configuration where the Unity server handles voice and email messages. Subscribers can check messages by phone or by email. The email server must be installed on the Unity Server in this configuration and the email application is only supported if used only for voice mail messages.

Unity Unified Messaging with Existing Exchange Server is a configuration where the Unity system handles voice messages only and stores them on other Exchange Servers. Subscribers can check messages by phone or by email. In this configuration, the Exchange Servers are not administered as part of the IPT offering. Contact information for the party responsible for Exchange/Domain Server administration is required. If a Unity trouble case in this configuration is in any way related to the Exchange interface to the Unity platform, NetSolve must have the ability to engage support from those responsible for the Exchange databases and servers in order to collaborate on a successful service restoration. NetSolve reserves the right to suspend its resolution activities if the Exchange support is unavailable or persistently un-responsive.

Non-Unity Voice Mail is a configuration in which a Voice Mail system other than Unity is used (e.g. Octel). In this configuration, a Cisco DPA is required to interface the legacy Voice Mail system with Call Managers. In this configuration, NetSolve does not administer the legacy system and will troubleshoot only down to the DPA. Contact information for the party responsible for support and maintenance of the legacy system is required. NetSolve reserves the right to suspend its resolution activities if the vendor's support is unavailable or persistently un-responsive

NetSolve Responsibilities

1. Network Design Verification

NetSolve will either approve an existing Managed IPT Site design or make recommendations required for NetSolve acceptance of a new Managed IPT Site prior to Operations support implementation. All IPT Managed Sites must be approved for manageability and must have a NetSolve-approved IP addressing scheme. Acceptance of the NetSolve Customer Service Order (CSO) may be withdrawn if the customer does not make the required changes specified by NetSolve.

2. Operations Implementation Management

Each Managed Device should be an existing device that has already been installed, tested and is ready for Operations implementation. Equipment Staging, Integration Services, and On-site Installation Services must be provided by customer or an AVVID IP Telephony Certified Cisco Partner. After Operations support has been implemented, moves, adds, and changes to a Managed IPT Site may be provisioned by the customer or AVVID IP Telephony Certified Cisco Partner or, for devices in the **Supported Equipment** list as detailed in this document, by NetSolve. These NetSolve services are priced and sold separately and discussed in **NetSolve's Moves, Adds and Changes** document. The Operations Project Implementation Management fee is not optional.

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

- Work with Customer and the AVVID Certified Cisco Partner to develop a schedule for initiating Operations support of each Managed Component
- Enter the Customer's Managed Component information in the applicable NetSolve databases
- Establish device management access for each Managed Component through the Customer provided site management channel
- Review and verify the configuration of all Managed Components
- Test and accept each Managed Component for ongoing Operations Management coverage

3. Information Management

NetSolve will maintain an information repository of data with respect to the Customer and the IPT 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 and escalation procedure

Managed Device Information

- Vendor name, model number, serial number
- Device-specific configuration settings
- The archived configurations for each managed device (for devices with downloadable configuration files only; some devices, such as Cisco 1900 & 2800 LAN switches, do not support downloadable configuration files)
- Passwords and authentication settings
- Equipment maintenance information

Managed Interface Information

- IPT Link Interface information
- IPT Port Interface information and Customer's IPT Managed Port Interface designations

Network Management Information

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

4. Configuration Management

NetSolve will maintain Managed Component configurations and make changes to resolve outages or improve performance. Customer-requested configuration changes are subject to NetSolve's reasonable approval and processed using **NetSolve's Moves, Adds and Changes** policy.

In order to provide for the optimum performance and reliability of the Managed IPT Site, software upgrades of Managed IPT Devices may be periodically required. NetSolve will track the defect 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 which the Customer is entitled to under applicable maintenance agreements or that 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 the Customer's expense. Typically CallManager and Unity upgrades may require on-site support that would involve additional charges. Most other patches and upgrades can be executed remotely by NetSolve.

Upgrades on IOS devices are included in the service.

Upgrades on Servers and other patches are applied to the hours of engineering time allotted per month (see section 6 – Fault Isolation and Resolution). Work that requires additional time will be pre-approved by the customer.

As part of configuration management, the active configuration of each covered Managed Cisco IOS device is compared against the previously archived configuration daily. The last ten configuration changes are kept on file at NetSolve to help ensure rapid recovery from a device corruption or failure. In addition, when NetSolve and the client share device access privileges, a TACACS server will be employed to ensure all configuration changes by either party are retraceable.

CallManager, Unity and AVVID Modules servers are not IOS devices and typically have configurations that are too large to be backed up remotely. NetSolve programs back-up procedures for these devices such that these configurations are available for rapid recovery from disk drives on other servers or on-site tape systems in each CallManager cluster at the customer's premises. NetSolve is responsible for configuration recovery for these devices whether by use of these on-site backups or via manual reconfiguration if necessary.

5. 24 x 365 Monitoring and Notification

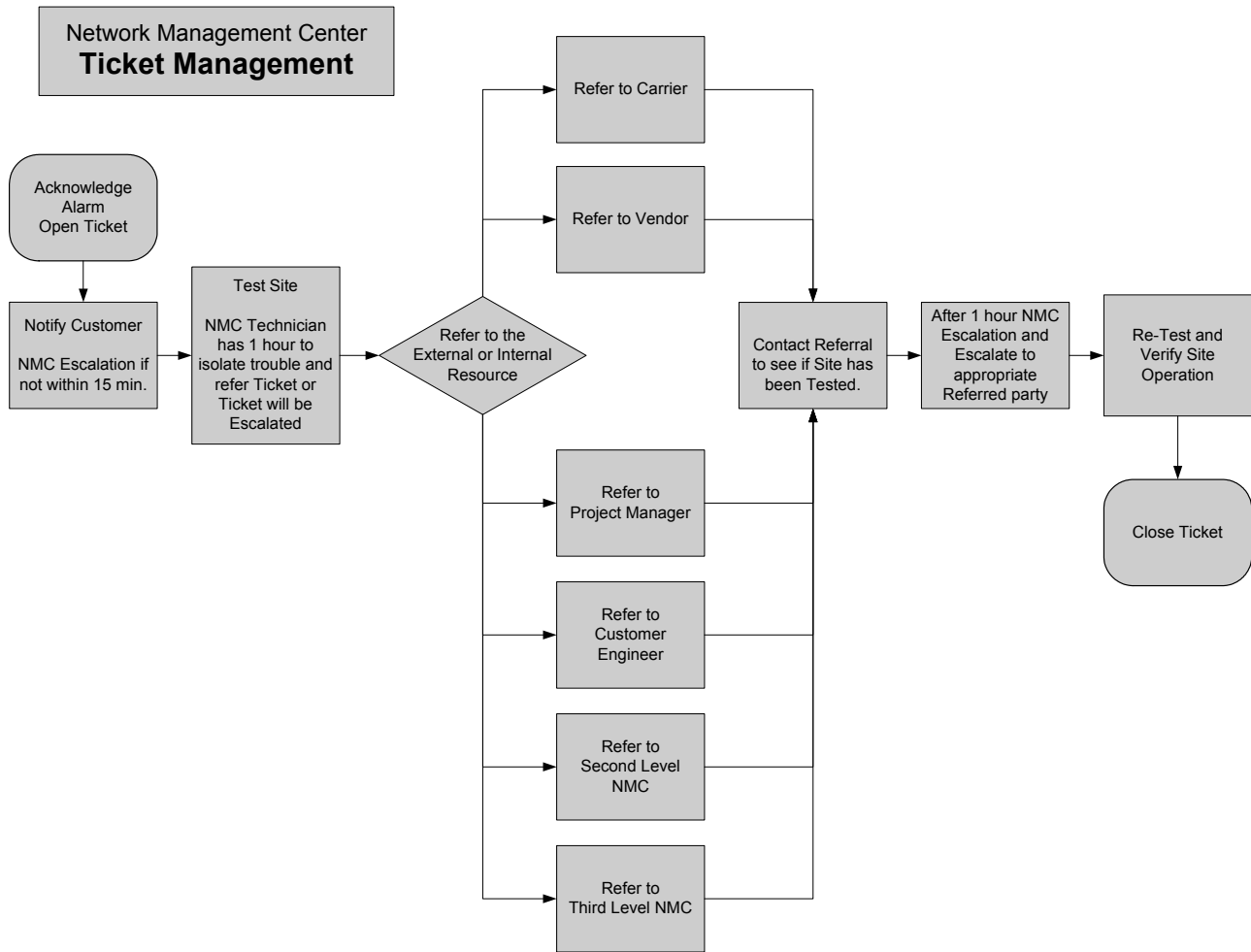
NetSolve will proactively monitor the up/down status of all Managed Components from the NetSolve network management center 24 hours per day, 365 days per year. NetSolve will also monitor the up/down status of the PSTN trunks connected to IPT Voice Gateways. NetSolve will proactively monitor the connectivity and Quality of Service (QoS) between Managed Toll Bypass Devices. NetSolve will proactively monitor QoS parameters on properly configured Cisco infrastructure devices (switches, routers and gateways).

NetSolve will perform CallManager Server Monitoring in three major functional areas: System, Environment, and Application. System monitoring encompasses the hardware, firmware, and software that make up the computing platform. Environment monitoring involves the operating system and associated processes. Application monitoring includes the server applications residing on top of the operating system that deliver functionality to the user.

Upon receipt of an alarm at the NMC from a Managed Component, or a call from the Customer indicating a network outage, performance issue, or IP telephony problem, 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 may also call the NMC.

6. Fault Isolation and Resolution

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



Upon receipt of a proactive ticket or customer generated request NetSolve will assign a Severity rating between P1-P6. This rating is used to manage the ticket with the internal NetSolve tools. NetSolve Technicians will assign the rating based on the severity levels below. NetSolve retains the right to set and maintain priorities based on situation and outage impact. If desired, customers may request an escalation on any ticket regardless of priority.

Severity Level	Definition
<u>P1</u>	Critical: Problem that is business impacting. - 25% or more of system or users affected. - No work around is available. - Full-time resources committed immediately AROUND THE CLOCK to resolve the problem.
<u>P2</u>	Business Impacting. - 15% or more of system or users affected. - No work around available. - Immediate impact to daily operations of the organization. - Immediate, direct, and critical impact to executives within the company. - Full-time resources committed immediately during business hours to resolve the problem.
<u>P3</u>	Urgent: Single End User business impacting. - Intermittent failures. Occurs less than three times per day. - Service request or restoration.
<u>P4</u>	Information or Assistance: End user requires information or assistance on supported products' capabilities, installation, or configuration. - Medium to low priority. - Service Request. - Single Client Impact.
<u>P5</u>	Service Change Request. - - Lower Priority.
<u>P6</u>	Service Change Request. - Scheduled at a mutually agreed time in the future.

NetSolve will escalate Trouble Tickets on a standard schedule based upon target fault isolation and repair times. While the escalation is automatic, the Customer may request escalation within NetSolve at any time. Upon isolation of the fault, NetSolve will either resolve the problem directly by remotely executing configuration or programming changes or notify and invoke other authorized service restoral resources on behalf of the customer per pre-arranged instructions. Where requested, NetSolve personnel will adhere to a mutually agreed upon change management process in order to make necessary or recommended changes.

- Each SIPT customer will receive up to 5 hours per month of engineering support. This time budget can be used towards customer-initiate trouble cases, patches, upgrades, voice MACDs, and CallManager projects. Proactively generated tickets are included in the SIPT service with no limit and do not count against the 5 support hours. The 5 support hours apply to the given month and unused support hours are not added to subsequent months.
- Approval for additional support labor will be sought when projects are expected to exceed the five hour limit. Additional support is available at the rate specified on the SIPT pricing sheet with 30 minute minimums from 7 AM to 7 PM, M-F CST. Off-hour support can also be arranged when pre-scheduled with a customer engineer. CallManager and Unity server or application problems will be resolved by NetSolve personnel or maintenance dispatches. This includes dial plan and feature configurations, covered patches and upgrades, feature operation and other telephony issues.
- AVVID Modules function issues will be resolved by NetSolve personnel if properly contracted or isolated and referred to other customer-specified contacts as appropriate. See Appendices on available additional services for specific details.
- Infrastructure device (covered routers, switches or gateways) problems will be resolved by NetSolve personnel or referred to appropriate dispatch if needed. 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.

- QoS issues will be resolved by NetSolve personnel by implementing configuration changes or making network configuration recommendations to appropriate personnel.
- Network issues will be referred to appropriate carriers and managed through to resolution by NetSolve personnel under appropriate pre-arranged letters of agency. This includes echo adjustments, impairment issues, and chronics resolution.

General telephony problems that are isolated by NetSolve to other services or products provided by other vendors such as non-Unity voicemail, IPCC specialists, or associated third party applications like Exchange will be referred to previously arranged contacts specified by the customer.

When fault isolation procedures indicate a problem with Non-Managed Components or Non-Managed Interfaces that have no pre-arranged referral information, NetSolve will provide the Customer with information gathered during the fault isolation process in an effort to aid the Customer in restoring service.

7. Managed Component Reporting

The Customer may access ProWatch Exchange for the following information on all Managed Components:

Managed Component Status Report

- Trouble Ticket Reports during and after fault resolution on Managed Devices and Interfaces
- Managed Device inventory information for IPT servers, switches, routers and gateways

Managed Component Monitoring and/or Performance Reporting areas:

- Call Manager Servers
 - Communication Interface statistics
 - Server hardware environmentals
 - Operating System parameters
 - Application metrics specific to CallManager
 - Availability statistics
- Unity Servers
 - Communication Interface statistics
 - Server hardware environmentals (if manufacturer's agent is enabled)
 - Operating System parameters
 - Application metrics specific to Unity
 - Availability statistics
- Cisco Gateway devices
 - Communication Interface statistics
 - Cisco Quality of Service (QoS) statistics
- Cisco IPT-enabled switches
 - Communication Interface statistics
 - Hardware environmentals when available
 - Cisco Quality of Service (QoS) statistics
- Cisco IPT-enabled routers
 - Communication Interface statistics (all interfaces)
 - Frame Relay specific statistics (Frame interfaces)
 - Cisco Quality of Service (QoS) statistics
- Supported AVVID Modules (see specific appendices)
 - Personnel Assistant
 - Cisco Conference Connection
 - IPCC Express
- Exception Reports Queries
 - Communication Interface Statistics
 - Server Operating System parameters

- Trouble Ticket parameters
- Work Ticket parameters
- Move, add, changes and delete parameters

In many cases, additional trouble shooting reports may be obtained by contacting NetSolve's Customer Engineers.

8. Engineering Analysis and Troubleshooting and Additional On-Site Support

NetSolve will provide network recommendations based on analysis of the Managed Components' Utilization and Error Exception reports. These recommendations will be focused on maintaining availability and optimal ongoing performance of the Managed Components. Performance recommendations and analysis may be reviewed by contacting NetSolve's Customer Engineers.

Performance/engineering analysis for Non-Managed Interfaces is available at professional service rates, contingent on availability of a Customer Engineer. Customers may upgrade any Non-Managed Interface on any Managed Device to a Managed Interface by using the **NetSolve's Moves, Adds and Changes** document.

If NetSolve is unable to isolate a trouble case with respect to a managed component to its satisfaction by remote techniques, NetSolve will, at its expense, dispatch resources to Customer locations to facilitate isolation. Some non-technical assistance from the Customer may be requested to augment NetSolve's remote activities. Should the customer withhold this assistance, NetSolve may request approval to dispatch appropriate other on-site resources for additional time and material expenses. In our experience these dispatches are anticipated to occur rarely if at all. If the customer wishes on-site support beyond that recommended by NetSolve, NetSolve can provide such services, generally through its third parties, for appropriate additional time and material rates. Ongoing on-site support engagements are beyond the scope of this service but may be arranged for separately if desired.

9. Service Level Objectives

NetSolve internally manages the IPT Telephony service based on several Service Level Objectives as set forth below. Adherence to these objectives are not guaranteed within the standard ProWatch for SIPT service. However, NetSolve's performance to these objectives is reviewed daily by Operations personnel. Customers should anticipate these objectives will be met in most cases. These metrics are reviewed internally for all P1 and P2 cases.

Mean Time to Notify: NetSolve will notify Customer by email or other pre-arranged electronic means within 15 minutes of a monitored event that produces a Trouble Ticket in the NetSolve ticketing system. Upon notification, the Customer can access the detail associated with the ticket and its resolution process by accessing the ProWatch Exchange web portal.

Mean Time to Isolate: NetSolve will isolate the most likely root cause of Tickets produced, either proactively or as a reaction to a customer inquiry, within one hour of the Tickets generation. Upon isolating the Ticket's cause, NetSolve will invoke appropriate resources to pursue Ticket resolution.

Mean Time to Repair: On average, NetSolve will resolve Tickets within four hours of the generation of the Ticket. In cases where other vendors or the customer are, by agreement, invoked in the resolution then NetSolve is only responsible for the elapsed times that it can control. No ticket will be closed without the customer's concurrence in the Ticket's closure.

Customer Responsibilities

- Customer is responsible for providing NetSolve with 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 is 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 any applications other than CallManager and Unity, workstations, non-IP telephones, and physical plant management, and for management of any other items that 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 is responsible for the integrity and performance of IPT Site's LAN and LAN cabling. In the event that, in connection with its monitoring and fault management services, NetSolve isolates chronic problems related to the LAN or the LAN's physical cable plant, NetSolve may recommend cable plant analysis or possible upgrades to eliminate the problems. If chronic problems are identified and left unresolved, NetSolve reserves the right to discontinue its service to the Customer at that site.
- Customer must provide Frame Relay or VPN management access connectivity as required by NetSolve to provide access to each Managed Component. This can be one channel to each Managed Device site or one channel to the headquarters site for Managed IPT Sites that are connected via a WAN. Frame Relay is preferred whenever possible.
- 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 IP Telephony services to allow dial-in access to one or more IPT Core Managed Components by NMC personnel. These lines must be connected to a NetSolve approved dedicated dial modem provided by Customer or purchased separately from NetSolve.
- Customer is responsible for software and on-site hardware maintenance coverage for all equipment included in Managed Components. Customer may obtain this maintenance from a third party, NetSolve or may provide it themselves. Customers should have a maintenance agreement for IP telephone replacement or depot several spares.
- 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 via Letters of Agency to allow NetSolve to trouble-shoot, 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 is responsible for Telephone Number Management (TNM).
- Customer must provide PC Anywhere for Unity Servers.
- 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. See **NetSolve's Moves, Adds and Changes** document for more detailed information.
- Customer must obtain registered IP addresses for applicable Managed Components or agree to use unregistered IP addresses assigned by NetSolve. All IP addressing plans must be approved by NetSolve. NetSolve may also require a secondary addressing scheme if there are addressing conflicts.
- Customer agrees to grant NetSolve the right to utilize statistics derived from historical performance and the right to publish these statistics, aggregated with other customers, as long as Customer or Customer's data is not identified or compromised.

Warranty

WITH RESPECT TO SERVICES, NETSOLVE'S EXCLUSIVE WARRANTY IS 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 (i) UP TO FIFTY PERCENT (50%) OF THE SERVICE FEES FOR THAT MONTH, UP TO A MAXIMUM CREDIT OF \$10,000 IF THE CAUSE IS A CARRIER OUTAGE BEYOND NETSOLVE'S CONTROL, OR (ii) UP TO ONE HUNDRED PERCENT (100%) OF THE SERVICE FEES FOR THAT MONTH, UP TO A MAXIMUM CREDIT OF \$20,000 FOR OTHER PROWATCH FOR SIP TELEPHONY SERVICES ISSUES. 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 WILL CONSTITUTE CUSTOMER'S SOLE AND EXCLUSIVE REMEDY FOR BREACH OF WARRANTY. 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 Classes and Protocols

The ProWatch for SIP Telephony service currently supports only AVVID Voice-over-IP devices from Cisco. The list of devices will be updated from time to time to reflect current supported products. Support of devices or protocols that are not listed may be obtained by going through the NetSolve ICB process for documented approval. The device count column provides a device count weighting value that is used to calculate the Device Count Maximums related to per phone pricing. For the purposes of these calculations, phones are not considered devices.

Supported Small Site IPT Device List	Classifications	Device Count
Convergence Servers		
Call Manager 3.0(4) or later running on a TAC supported server	Servers	1
Unity 3.0 or later running on a TAC supported server	Servers	1
Integrated Telephony Solutions		
Cisco Integrated Communications System 7750	Integrated	3
IP Telephony Switches		
Catalyst 35XX Series XL stackable switches	LAN Switch	0.5
Catalyst 3550 Series XL stackable switches (layer 2)	LAN Switch	0.5
Catalyst 3550 Series XL stackable switches (layer 3)	LAN Switch	1
Cisco Catalyst 4000 Family IP Telephony Solutions	LAN Switch	1
Cisco Catalyst 6000 Family IP Telephony Solutions	LAN Switch	1
Cisco Catalyst 4000 Family Access Gateway Module	Module	0
Cisco Catalyst 4000 Family Inline Power 10/100BaseT Ethernet Switching Module	Module	0
Catalyst 6000 Family 24-Port FXS Analog Interface Module	Module	0
Catalyst 6000 Family Voice T1/E1 and Services Module	Module	0
Voice Gateways and Access Routers		
Cisco 2600 Series Modular Access Router	Router	1
Cisco 3600 Series Modular Access Router	Router	1
Cisco 3660 Series Modular Access Router	Router	1
Cisco 3700 Series Modular Access Router	Router	1
Cisco 1750 Modular Access Router	Router	1
Cisco 7100 Series VPN Router	Router	1
Cisco AS5300/Voice Gateway	Gateway	1
Cisco VG200/ Voice Gateway (EOL)	Gateway	1
Cisco VG248/POTS Voice Gateway	Gateway	1
Voice/Fax Network Modules, Cisco 2600/3600 Routers	Modules	0
Digital T1/E1 Packet Voice Trunk Network Module	Modules	0
Catalyst 6000 Family Voice T1/E1 and Services Module	Modules	0
Catalyst 6000 Family Voice Analog FXS Module	Modules	0
Digital Port Adapter Family for the Cisco 7xxx router	Modules	0
Cisco DPA 7630 Voice Mail Gateway	Modules	0

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APPENDIX 1 – Cisco Personal Assistant (PA) Support

Application Description: “Find me anywhere”. Users manage how and where they want to be reached.

Service Scope: 24 by 365 support of the Server Platform and the Application after installation is completed. This service is available as an add-on support service to ProWatch for SIP Telephony and is priced separately.

Server Monitoring and Reporting:

- Communication interface ticketing and reporting
- Server hardware environmental ticketing (only if manufacturer’s agent is enabled)
- Operating System ticketing and reporting (CPU, Memory, Disk space)

Application Management

- Troubleshooting infrastructure and application issues
- Operating system patches and minor upgrades

Customer is responsible for end-user training and helpdesk issues including how to use the features of the PA service.

APPENDIX 2 – Cisco Conference Connection (CCC)Support

Application Description: IP-based audio conferencing solution

Service Scope: 24 by 365 support of the Server Platform and the Application after installation is completed. This service is available as an add-on support service to ProWatch for SIP Telephony and is priced separately.

Server Monitoring and Reporting:

- Communication interface ticketing and reporting
- Server hardware environmental ticketing (only if manufacturer’s agent is enabled)
- Operating System ticketing and reporting (CPU, Memory, Disk space)

Application Management

- Troubleshooting infrastructure and application issues
- Operating system patches and minor upgrades

Customer is responsible for end-user training and helpdesk issues including how to use the features of the CCC service.

APPENDIX 3 – Cisco IPCC Express (IPCCX) Monitoring and Notification

Application Description: Cisco’s IPT compatible Call Center Application for up to 75 agents.

Service Scope: 24 by 365 monitoring and fault notification for the Server Platform and Application provided after the initial installation is completed. This service is available as an add-on support service to ProWatch for SIP Telephony and is priced separately.

Server Monitoring and Reporting:

- Communication interface ticketing and reporting
- Server hardware environmental ticketing (only if manufacturer’s agent is enabled)
- Operating System ticketing and reporting (CPU, Memory, Disk space)

Application Management

- Application specific tickets and reports
- Availability tickets and reports

Customer is responsible for end-user training and helpdesk issues including how to use the features of the PA service.