02-09-00 Approv

FORM 20 - 12/97

jc760 U.S. PTO 02/08/00

jc541 U.S. PTO 60/181099 02/08/00

PROVISIONAL APPLICATION COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION under 37 CFR 1.53 (c).

BOX PROVISIONAL APPLICATION
Assistant Commissioner for Patents
Washington, D.C. 20231

Docket Number: CETA-003Xq800	**Type a Plus sign (+) inside this box →**	+

INVENTOR(s)/APPLICANT(s)

LAST NAME	FIRST NAME	MIDDLE INITIAL	RESIDENCE (CITY AND EITHER STATE OR FOREIGN COUNTRY)
Rogers	Steven	A.	Route 1, Box 90L, Alton, NH 03809

[ ] **Additional Inventors are being named on Page 2 attached.**

TITLE OF THE INVENTION (280 characters max)

LOCAL AREA NETWORK (LAN) TELEPHONE INSTRUMENT SYSTEM

CORRESPONDENCE ADDRESS

WEINGARTEN, SCHURGIN, GAGNEBIN & HAYES LLP
Ten Post Office Square
Boston, Massachusetts 02109

STATE: Massachusetts ZIP CODE: 02109 COUNTRY: United States

ENCLOSED APPLICATION PARTS *(CHECK ALL THAT APPLY)*

[X]	Specification	Number of pages	[17]	[X]	Small Entity Statement
[X]	Drawing(s)	Number of sheets	[15]	[ ]	Other (specify)

METHOD OF PAYMENT *(CHECK ONE)*

[X] A check in the amount of $75.00 is enclosed to cover the Provisional Filing Fee

[ ] The Commissioner is hereby authorized to charge filing fees and credit Deposit Account Number 23-0804

Respectfully submitted,

SIGNATURE Christopher J. Lutz DATE 2/8/00

TYPED or PRINTED NAME Christopher J. Lutz REGISTRATION NO. 44,883

PROVISIONAL APPLICATION FILING ONLY

Express Mail No: EL418425219US

219847

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:	Steven A. Rogers	**ATTORNEY DOCKET NO.:**	CETA-003Xq800
APPLICATION NO.:		**EXAMINER:**	
FILED:	HEREWITH	**GROUP NO.:**	
PATENT NO.:		**ISSUED:**	

ENTITLED: LOCAL AREA NETWORK (LAN) TELEPHONE INSTRUMENT SYSTEM

VERIFIED STATEMENT AS SMALL ENTITY

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

THE UNDERSIGNED DECLARES:

Exclusive rights in the above-identified invention reside in the "small entity(ies)" defined and named below or in a Verified Statement as Small Entity filed by other such small entity(ies), and "small entity" fees are appropriate. Qualification as a small entity is based upon the appropriately checked statements below:

[ ] INDEPENDENT INVENTOR(S)

The below-signing independent inventor(s) has (have) not assigned, granted, conveyed or licensed, and is (are) under no obligation under contract or law to assign, grant, convey or license any rights in the invention to any person who could not likewise be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

[X] SMALL BUSINESS CONCERN

The below-identified small business concern qualifies as a small business as defined in 13 CFR 121.1301 through 121.1305, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, in that the number of employees, including those of its affiliates, which does not exceed 500 persons, and it has not assigned, granted, conveyed or licensed, and is under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified

Express Mail Number

01/2000 FORM 10

Attorney
Docket No.: CETA-003Xq800

Concerns are affiliates of each other when, either directly or indirectly, one concern controls or has the power to control the other, or a third party controls or has the power to control both. The number of employees of the business concern is the average over the fiscal year of the persons employed during each of the pay periods of the fiscal year. Employees are those persons employed on a full-time, part-time or temporary basis during the previous fiscal year of the concern.

[ ] **NONPROFIT ORGANIZATION** (Check additional applicable box.)

The below-identified nonprofit organization qualifies as a small entity under 37 CFR 1.9(e) in that it constitutes:

1. [ ] a university or other institution of higher education located in any country; or

2. [ ] an organization of the type described in Section 501(c)(3) of the Internal Revenue Code of 1954 (26 USC 501(c)(3)) and exempt from taxation under Section 501(a) of the Internal Revenue Code (26 USC 501(a)); or

3. [ ] any nonprofit scientific or educational organization qualified under a nonprofit organization statute of a state of the United States (35 USC 201(i)); or

4. [ ] any nonprofit organization located in a foreign country which would qualify as a nonprofit organization under paragraphs (e)(2) or (3) of Rule 1.9 if it were located in the United States.

The undersigned acknowledges the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate (37 CFR 1.28(b)).

The below-signing individual hereby declares that he is authorized to execute this statement on behalf of the small entity.

Name of Small Entity: (Small Business) Cetacean Networks	
Address of Small Entity: (Street, City, State or Country, Zip Code) Box 6618, Portsmouth, New Hampshire 03802	
Name of Person Signing: (Small Business) Steven A. Rogers	
Title of Person Signing: (Small Business) Chief Executive Officer	
Signature: (Please sign and date in permanent ink.) X	**Date signed:** X 5 Feb 2000

219846

LOCAL AREA NETWORK (LAN) TELEPHONE INSTRUMENT SYSTEM

Inventor: **Steven A. Rogers** of Alton, NH

Assignee: **Cetacean Networks, Inc.** of Portsmouth, NH

ABSTRACT

An apparatus and method is provided for a user instrument, which makes voice telephone calls over a local area network (LAN) data network. The instrument described will digitally encode the acoustic voice sounds and transmit them as data, over the LAN, which is typically Ethernet-based. The instrument will also simultaneously receive LAN data packets and decode them, translating the data into acoustic audio voice sounds, for the user. The LAN telephone will physically resemble older, wire line telephone instruments but internally will operate quite differently. All communications with the network will occur through the use of the LAN. For previous telephones, connected to PBX or telephone switches, the data transfer is accomplished with analog voice signals or digital data conducted over dedicated wiring to a dedicated switch port. With the LAN telephone, the data for call control and for voice signals will be transmitted through the LAN. This LAN telephone adds several new capabilities. First, the LAN telephone will use a unique packet scheduling technique to prevent packet collision, delay or loss. This scheduling technique relies on time of transmission and arrival to switch packets, and to prevent packet collision. Second, this LAN telephone receives its power via the data switch, using LAN wiring. In this way it does not require a separate power supply and may be operated during a power outage. Third, the LAN telephone has a means for attaching peripheral devices using an electronic interface system. This means provides an ability to add new capabilities to the existing telephone instrument. Fourth, the LAN telephone has an internal system for allowing the telephone to be moved, from one connection to another, without changing the telephone number. Fifth, the LAN telephone features a system for changing automatically, the internal control software of the instrument, or of any connected peripherals. This ability makes it possible to add new features or to change features, remotely. Sixth, the LAN telephone has a system for connecting an external "speaker-phone" system. This ability gives the telephone instrument's user the ability to place the voice audio source and pickup in a location that is convenient to the user and not necessarily co-located with the instrument itself.

Express Mail Number
EL418425219US

LOCAL AREA NETWORK (LAN)
TELEPHONE INSTRUMENT SYSTEM

BACKGROUND OF THE INVENTION

1. Technical Field

This invention relates generally to a telephone instrument that is directly connected to a data LAN (Local Area Network).

2. Related Information

Telephone systems for business use normally consist of a central switch or Private Branch eXchange (PBX (16)), illustrated in Figure 2, which connects to telephones throughout the business via a twisted pair wire (14, 15). This system configuration is depicted in figure 2. In most cases the PBX will use a single twisted pair cable to connect with the telephone instrument (14). The telephone PBX sends and receives signals, to the telephone instrument via a frequency translated modem system.

The typical PBX system uses dedicated wiring which consists of multi-pair cables, connected to the PBX (15). These multi-pair cables are connected to punch-down blocks (12). The punch-down blocks are normally placed in a closet on the floor of the office building, near the telephone instruments. The individual station cables (14) are also connected to the punch-down blocks. The station cables (14) lead to the wall jacks (11). The telephone instruments (10,13) are connected to the system via a cable (18) to the wall jack (11). The telephones are powered via a DC current that is carried by the same pair as that used for signaling. Telephone calls are made outside the premises via a Wide Area Network (WAN) link (17) connected to the PBX unit (16). The WAN link is often a multi-channel circuit, such as a "T1" or a "PRI."

The typical PBX system requires dedicated wiring. It does not co-exist with the data LAN that is common in most businesses. Thus, two wiring networks are normally required within an office building, one for data and one for telephones.

A new technique for creating a "virtual" PBX is becoming popular. In this technique, the telephone instrument uses a common Ethernet LAN cable, instead of a single twisted pair cable, to communicate with the PBX. A typical LAN telephone system is illustrated in figure 3. In this case, the PBX is a actually a server (27) with switch control software that is connected to the LAN. The telephones (21, 23) are now Ethernet LAN devices that also communicate over the LAN. Thus the telephony application, consisting of telephones (21, 23, 25), and a telephony server (27), attached to a WAN interface (28) can utilize the same switch (22) as do the businesses' computers (24) and network data servers (26). The advantage of this architecture, the LAN-PBX, is that the telephones can use the same wiring and data switches as the LAN data, and thus result in increased flexibility and lower cost.

A serious problem with the LAN-PBX is that telephony data has different delivery requirements than normal computer and server data. Telephony data must be delivered on-time (within a few milliseconds), and without delay, on a continuous basis. Normal computer data can usually suffer delays of a few hundred milliseconds without difficulty. Delays of this magnitude (a few hundred milliseconds) are common in computer networks. They occur because computer

DOCKET ALARM

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS
Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS
Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS
Sync your system to PACER to automate legal marketing.