# A Brief History of LEAP

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## A Component of *The LEAP Manifesto*

This article is one of a series of articles describing various aspects of the Mobile Messaging industry and the Lightweight & Efficient Application Protocols (LEAP) protocols. For the complete collection of articles see *The LEAP Manifesto* [**?**], available at
`http://www.LeapForum.org/LEAP/Manifesto/roadMap/index.html`. *The LEAP Manifesto* is also available at the Free Protocols Foundation website at
`http://www.FreeProtocols.org/LEAP/Manifesto/roadMap/index.html`.

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# 1 Overview

The origins of the LEAP protocols go back to 1994, when they originated as part of the research and development initiatives of McCaw Cellular's wireless data group (now AT&T Wireless Services). The development work that would eventually lead to LEAP was initially undertaken in the context of the CDPD network; its scope was later expanded to include the Narrowband PCS network also.

By 1996 McCaw Cellular was fully committed to paging, had recently purchased two nationwide narrowband wireless PCS licenses, and wished to develop an efficient wireless messaging system. Neda Communications, Inc., an independent consulting company working under contract to McCaw Cellular, played a key role in the development of the required system. Neda Communications had also been involved from the outset in the development of the CDPD specification.

In 1997 however, soon after the purchase of McCaw Cellular by AT&T Wireless, the latter company abandoned the wireless messaging project entirely. Prior to this event, Neda Communications had secured from AT&T the necessary rights to continue independent development of the protocols. Therefore, recognizing the eventual future need for these protocols, Neda then undertook to continue development of them independently of AT&T. They were eventually completed by Neda, published as RFCs, and now form the basis of the LEAP protocols.

# 2 Time-Line History

A time-line history of the significant events relating to LEAP is provided below. Note that the name LEAP is relatively new; this acronym was coined in early 2000. Prior to 1997, the research and development work which would eventually lead to the creation of LEAP was referred to by the general name of Limited Size Messaging (LSM).

Much of the LSM work was sponsored in various ways by McCaw Cellular, then later by AT&T Wireless Services (AWS). Two divisions of AWS are referred to in the time-line below. First, the Wireless Data Division (WDD) of AWS led much of the LSM-related development work. WDD was the division of AWS which had major responsibility for the CDPD (Cellular Digital Packet Data) network.

Later, the Messaging Division of AWS also made use of the LSM technology in the context of their Narrowband PCS (NPCS) network. In the context of Narrowband PCS, LSM was referred to by the general name of pACT (personal Air Communications Technology).

**Summer 1994:** The basic concept of providing wireless e-mail services over the CDPD network was first analyzed.

**January 1995:** AWS began creating the LSM protocol specifications. This work was carried out as a joint effort between the Wireless Data Division, and the NPCS Group within the Messaging Division.

**January 1995:** AWS began development of the reference implementation of the LSM protocols for both Message Centers and Devices.

**June 1995:** WDD submitted the LSM specifications to the CDPD Forum. The WDD made various LSM-related direction statements, and produced several press releases. This resulted in significant press coverage of LSM. Early development of the WAP protocols had the benefit of seeing this public release of LSM technology, and was based in part upon it.

**December 1995:** Neda's reference implementation of LSM was completed and ready for demonstration and testing.

**December 1995:** AWS sent out Requests For Proposal to potential large-scale Message Center suppliers.

**February 1996:** Neda's LSM device implementation interoperated with Aldiscon's Message Center.

**March 1996:** Sema Group UK was selected as the production Message Center supplier by AWS.

**April 1996:** The pACT Vendor Forum was formed. The initial forum members included Ericsson, PCSI, Aldiscon, AT&T, Casio, NEC, Novatel, Research in Motion, and Sema Group UK.

**July 1996:** Neda completed interoperability tests against the PCSI pACT pager.

**August 1996:** AWS issued the equivalent of a VAR agreement to Neda for development and distribution of the LSM software.

**September 1996:** Neda supplied LSM technology (in the form of source code) to Sema Group UK, and assisted Sema in the development of Message Center products for AWS.

**November 1996:** AWS changed the LSM strategy for pACT from two-way to "mostly one-way plus."

**December 1996:** Neda's palmtop LSM became ready for general testing.

**January 1997:** Sema Group UK delivered its first release of the LSM Message Center product.

**January 1997:** The Messaging Division of AWS licensed Neda's LSM product set.

**February 1997:** Neda's LSM implementation interoperated with Sema Group UK's LSM implementation.

**February 1997:** WDD terminated funding of LSM-related work, and focussed instead on early development of WAP.

**March 1997:** On March 17, AWS terminated the two-way paging project entirely. The NPCS Group of the Messaging Division was abruptly shut down, all employees were reassigned, and all vendor work terminated. Later the same year, the two nationwide Narrowband PCS licenses belonging to AWS were sold.

**April 1997:** Neda began development of EMSD and the Enhanced Two-Way Paging (ETWP) products.

**September 1997:** Efficient Short Remote Operations (ESRO) protocol was published as Internet RFC 2188.

**June 1998:** The Windows CE efficient e-mail implementation was publicly released by Neda.

**August 1998:** ETWP Subscriber Services and web access were made available.

**November 1998:** Open maintenance organization EMSD.org was established to support public enhancement of the EMSD protocol.

**January 1999:** Open maintenance organization ESRO.org was established to support public enhancement of the ESRO protocol.

**February 1999:** Efficient Mail Submission & Delivery (EMSD) protocol was published as Internet RFC 2524 by Neda.

**March 2000:** Neda made patent-free declarations to the Free Protocols Foundation with respect to RFC 2188 and RFC 2524.

This brings us up to the present. Our plans for the future of LEAP are described in a separate article in this Manifesto, entitled *The Future of LEAP*.

# 3 Acronym Apology

We live in the age of the acronym. Our language is now littered with more acronyms than at any other time in history, with more being added every day. We are inundated, swamped, awash with acronyms. We even have an acronym (TLA) for referring to acronyms.

The right acronym can make all the difference between the success and the failure of a product or idea, and for this reason considerable effort sometimes goes into creating just the right acronym.

In some cases the result is an acronym which is in good harmony with what it represents: PAWS (Progressive Animal Welfare Society); MADD (Mothers Against Drunk Driving). In other cases the acronym has good force and immediacy, but is not especially relevant to what it represents: NOW (National Organization of Women). On the other hand, the striving for a catchy acronym can lead to a labored and contrived construction: DARE (Drug Abuse Resistance Education).

In some cases no thought at all is given to the aesthetics of the acronym, resulting in one which is both pointless and clumsy: AFTRA (American Federation of Television and Radio Artists); or even worse, one which carries an actively negative connotation: SAG (Screen Actors' Guild).

As can be imagined, the search for the right acronym for our protocols has given rise to a protracted and sometimes emotional debate. Prior to 1997, while the protocols were undergoing development at AT&T Wireless Services, they were referred to as LSM, standing for Limited Size Messaging. When Neda began independent development of the protocols in 1997, the early, working name for the protocols was EAPS, standing for the Efficient Application Protocol Suite. This of course, is a purely engineering construction, describing the basic nature and purpose of the protocols perfectly. However, the word EAPS makes those of us with more aesthetic sensibilities physically ill.

The working name EAPS was eventually displaced by the name WHIP, standing for the Wireless High-Performance Internet Protocols. WHIP has a good strong personality, and is therefore more likely to remain in the mind of the hearer. An important component of our Manifesto strategy is capturing mindshare. In today's deafeningly noisy Internet environment, any assistance is welcome.

The price to be paid for this, of course, is that WHIP is contrived and inaccurate. First, the use of the word "Wireless" is inappropriate. There is nothing about the protocols which restricts them to wireless applications. Certainly, they have been designed with the needs of wireless applications in mind, but their major defining characteristic is their efficiency, which makes them appropriate for use in many applications, wireless and otherwise. Also, the hyphenated phrase "High-Performance" has been deliberately chosen to provide the coveted "H." A more accurate word would be Efficient, but there is nothing remotely memorable about "WEIP."

For these reasons, the name WHIP caused considerable distress among the engineering segment of the development team. Nevertheless, despite its contrived nature, WHIP persisted as a very strong candidate. This is because WHIP provides a compelling and very hard-to-resist payoff: it allows us to say, with spectacular alliterative effect:

*WHIP will whip WAP!*

However, first and foremost we are engineers, not marketeers, and in the end the inherent inaccuracy of WHIP proved to be intolerable, and regretfully, we abandoned it.

Our final choice is LEAP, standing for the Lightweight and Efficient Application Protocols.[1] This leaves both the engineers and the linguists equally dissatisfied. It has some personality, though not as much as WHIP. And it is reasonably accurate, though not as accurate as EAPS. But it is a choice we can all live with.

WHIP is dead. *Long live LEAP!*

[1] We are grateful to Warren Sly for proposing this name