Linguistic Tools:

Alex is a powerful UNIX application for creating and customizing User Dictionaries for the Logos system. Alex makes lexical work simple, efficient and virtually error proof. Entire phrases or single words may be entered into Alex and specified with respect to word inflection, word gender, parts of speech and even context-specific information to determine proper word meaning. Company-specific terminology can be added to the system with unlimited capacity and a high degree of specificity.

naries with a given document to be translated, you may specify up to five Company Codes and five Subject Matter Codes to govern the translation. During machine translation, the Logos System searches through these dictionaries in the order of priority you have specified.

Customizing Your Own Dictionaries

Alex allows you to create dictionaries containing nouns, noun phrases, adjectives and adverbs, all specified for a given subject matter or company-specific preference. Alex also allows users to alter the translations of existing verbs. Since language is so ambiguous, the system needs to know the meaning of the words you are entering so that this meaning can contribute to the successful analysis and translation of the sentence. When you enter a noun or noun phrase, Alex will always query you about its meaning.

For example, when you enter the term "table", Alex will ask you to specify the meaning you intend. You will be presented with the following list and asked to select the one closest to your intention:

> *list* (as in recorded data);
> *rock stratum* (natural thing, as in geology);
> *tableland* (as in plateau);
> *support surface* (as in mechanical engineering);
> *furniture* (bearing surface);
> *sluice box* (receptacle, as in mining engineering);
> *facet* (surface of a stone).

When you select one of these meanings, Alex attaches the necessary codes to your entry and makes important use of them during translation. Many users find this semi-automatic encoding feature one of the most interesting aspects of Alex.

Alex Makes Dictionary Management Easy

Alex is a highly effective tool for building and maintaining user dictionaries for use in the Logos automatic translation system. Alex makes lexical work easy despite the high sophistication of the underlying Logos technology. With Alex, new entries are typically accomplished in less than a minute each. The Alex database is capable of unlimited expansion as company-specific terminology is built into the system over time.

Using Alex

The dictionaries that you create in Alex will be used along with the Logos dictionary to provide translation of documents created in word processing applications and submitted for translation to Logos Server. Terminology may be designated as a noun phrase, noun, adjective or adverb. Each word may be classified as one of three different parts of speech.

Hierarchy of Dictionaries

Dictionary entries can be identified with Company and Subject Matter Codes. When you indicate dictio

Alex is an Expert System

Because Alex is already an expert, you do not have to become an expert in Logos technology to build dictionaries with Alex. Alex automates many of the technical tasks associated with adding words to the dictionary. For example:

- Morphological class assignment
- Stem generation
- Coding of homographs
- Semantico-syntactic encoding

Morphological Class Assignment

Alex automatically assigns morphology codes to govern word inflections during translation. In the case of German nouns, Alex may prompt you to assist in this operation if the word you are entering is unknown to Alex.

Stem Generation

You only need to enter words just as they appear in a standard dictionary and Alex will create the necessary stems for you (i.e. plural forms, gerunds, etc.)

Coding of Homographs

Some words can be defined according to different parts of speech. The word *"table"* for example, is both a noun and a verb. If you wish to enter *"table"* as a noun, you need not concern yourself with *"table"* as a verb. Alex does this for you. If your text also makes use of the word *"table"* as a verb, the word will also be present as a verb in your user dictionary, thanks to Alex.

Semantico-Syntactic Encoding

In order to determine the proper translation, the Logos system relies upon semantic and syntactic information supplied with each dictionary entry. These semantico-syntactic codes, along with Subject Matter Codes, help the automatic translation system understand how the word or phrase is being used and what it means. Alex generates these codes for you when you respond to a few simple questions about the class of word or phrase you are entering.

Structure of Dictionary Entries

- Each source language term may be up to 34 characters long and may consist of up to 10 words.
- Each target language term may be up to 48 characters long and may consist of up to 10 words.

Logos Supplied Dictionaries

A dictionary of basic terminology is supplied with the Logos system. User-created dictionaries and the Logos dictionary are integrated during translation. Logos Server searches the User Dictionaries before searching the main dictionary.

Number of Basic Entries

English source language: 50,000 basic entries
German source language: 100,000 basic entries

Seven Language Combinations:

Logos provides you with dictionary coverage for seven language combinations:

- **English/French**
- **English/German**
- **English/Spanish**
- **English/Italian**
- **German/French**
- **German/English**
- **German/Italian**

User Dictionaries created by Alex:

Maximum Size: unlimited
250 user-defined Subject Matter Codes
250 Subject Matter Codes provided by Logos system

Alex is a UNIX application that requires the Logos Server. Please see the Logos Server data sheet for hardware and software specifications.

The Logos Family of Translation Products:

Logos Server™

LogosClient™ for LAN

LogosClient Remote

Alex™

Semantha™

Alex™ for Windows