Tools for Translation State of the Practice, Established Tools and Capability Gaps

Jennifer DeCamp
MITRE Corporation
jdecamp@mitre.org

Agenda

- Fundamental Questions
- Types of Translation
- Translation Workflows and Current Tools
- Gaps
- Tolerance/Preferences
  - Human Translator
  - Post-Editor
  - MT User
- Conclusions
- Recommendations for MT Summit

Fundamental Questions

1. How can you get better accuracy in MT/HT?

   Communicative value (Tapling 2008)

   Fluency, fidelity, etc.

2. How can you make a C-level translator into a B-level translator?
3. How can you make human translators more productive?

Types of Translation

- Translation
- High Quality Translation
  - Literature, marketing material, important briefings
  - Nuance, style
- Gists/summaries
- Getting information to answer specific questions
- Sorting—figuring out the language, subject, and difficulty in order to route the material
- Multimedia
  - Television, etc.
- Embedded MT
- Multi-language source material
- Different dialects and registers
- MT embedded in chat and search tools
- Term translation
- Speech-to-speech translation

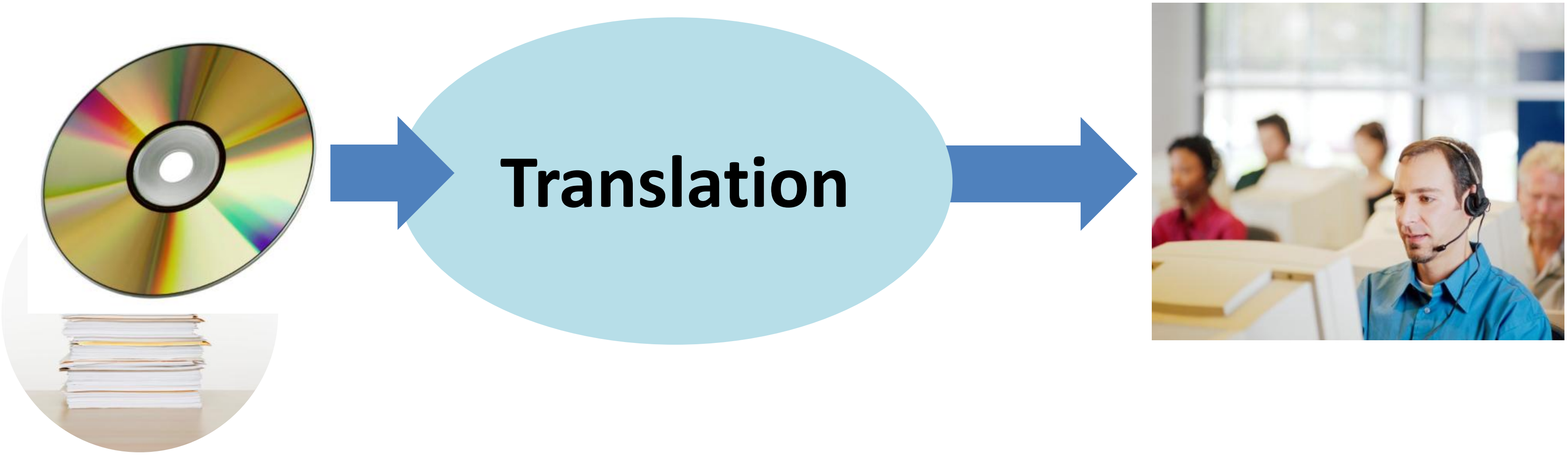
Some Major Distinctions

- Publisher centric vs. User centric
- Human Translation (HT) vs. Machine Translation (MT)
  - Increasingly mixed
- Cautious vs. whatever

Combinations

- Publisher-Centric
  - HT
  - MT
  - Combination
- User-Centric
  - HT
  - MT
  - Combination
  - With user tools?

Publisher-Centric HT

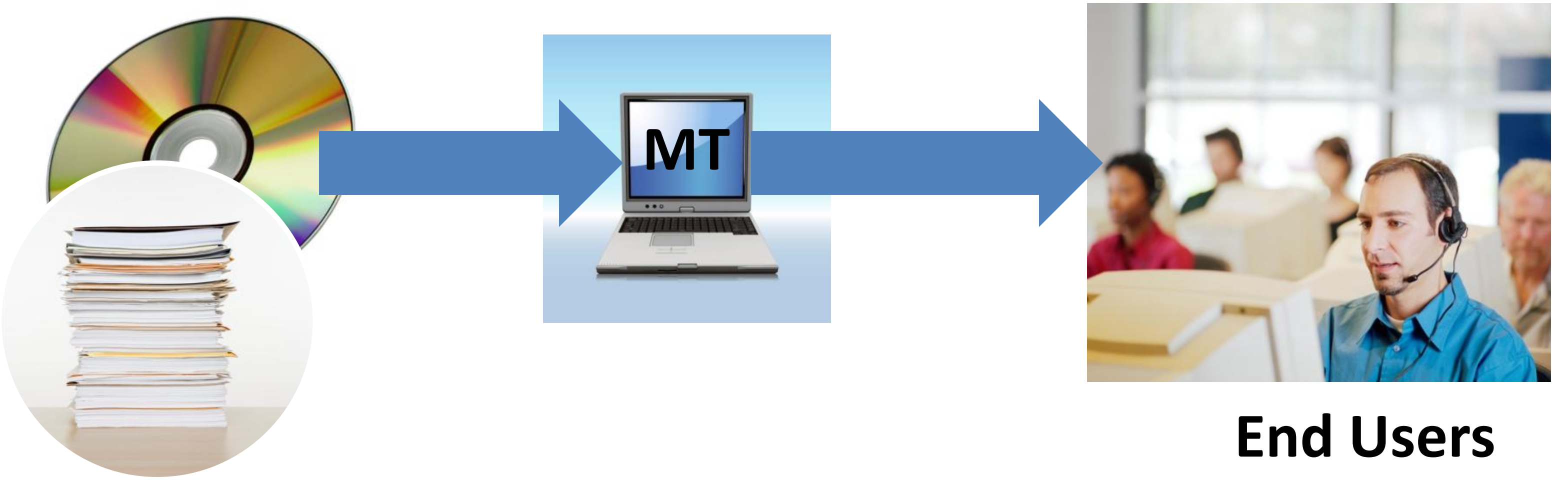


Translation

Data Owners

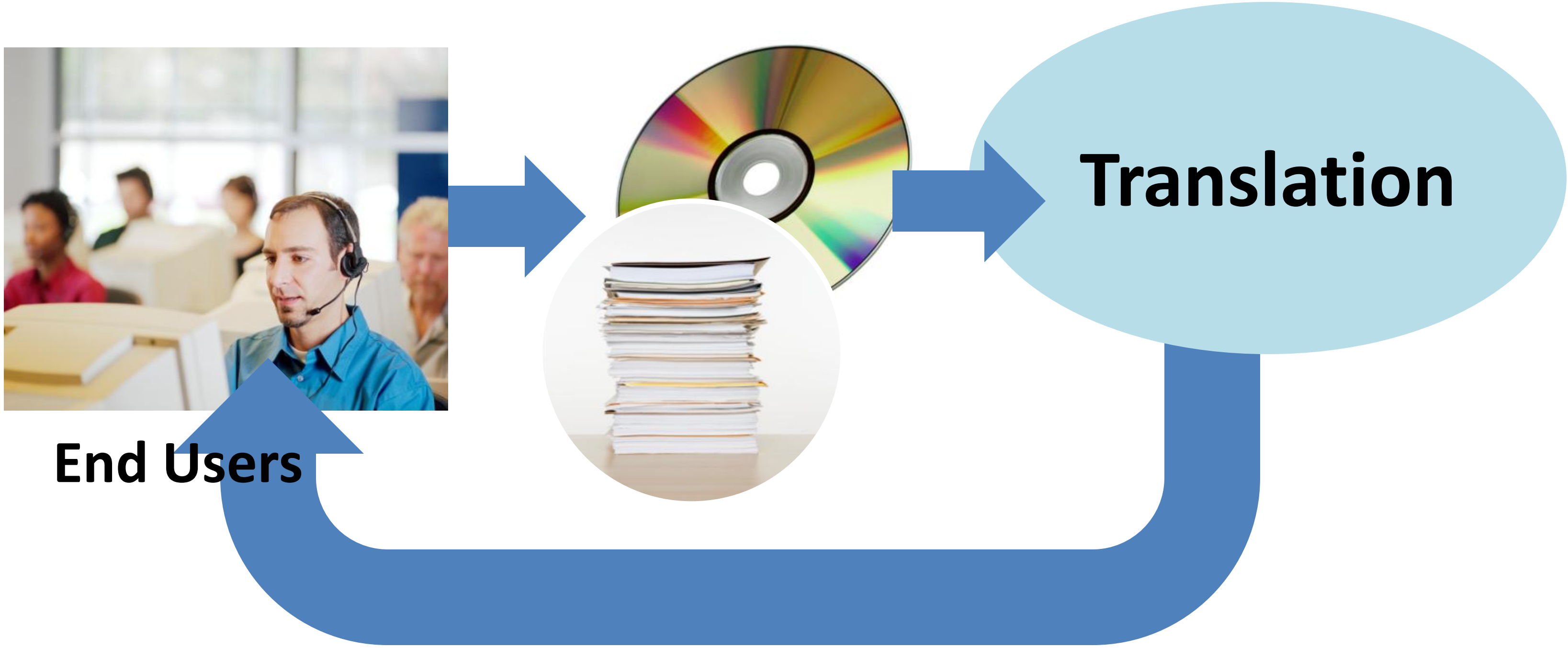
End Users

Publisher-Centric MT



End Users

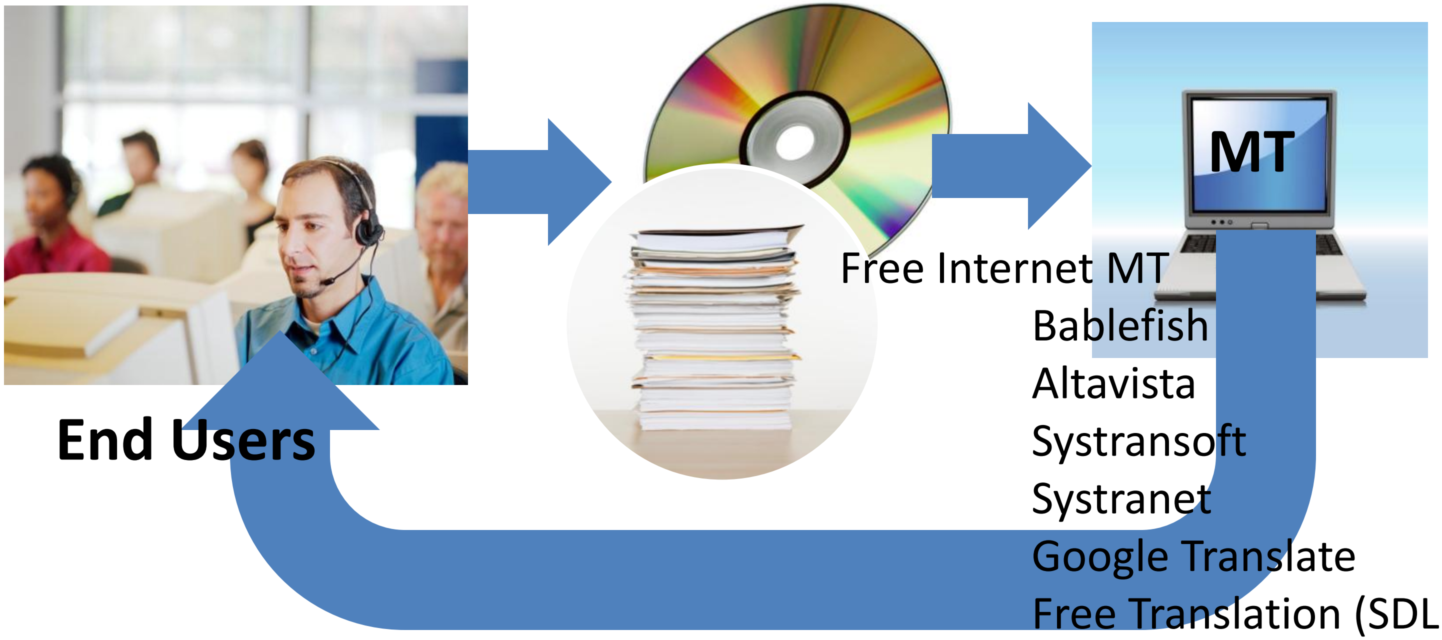
User-Centric HT



Translation

End Users

User-Centric MT

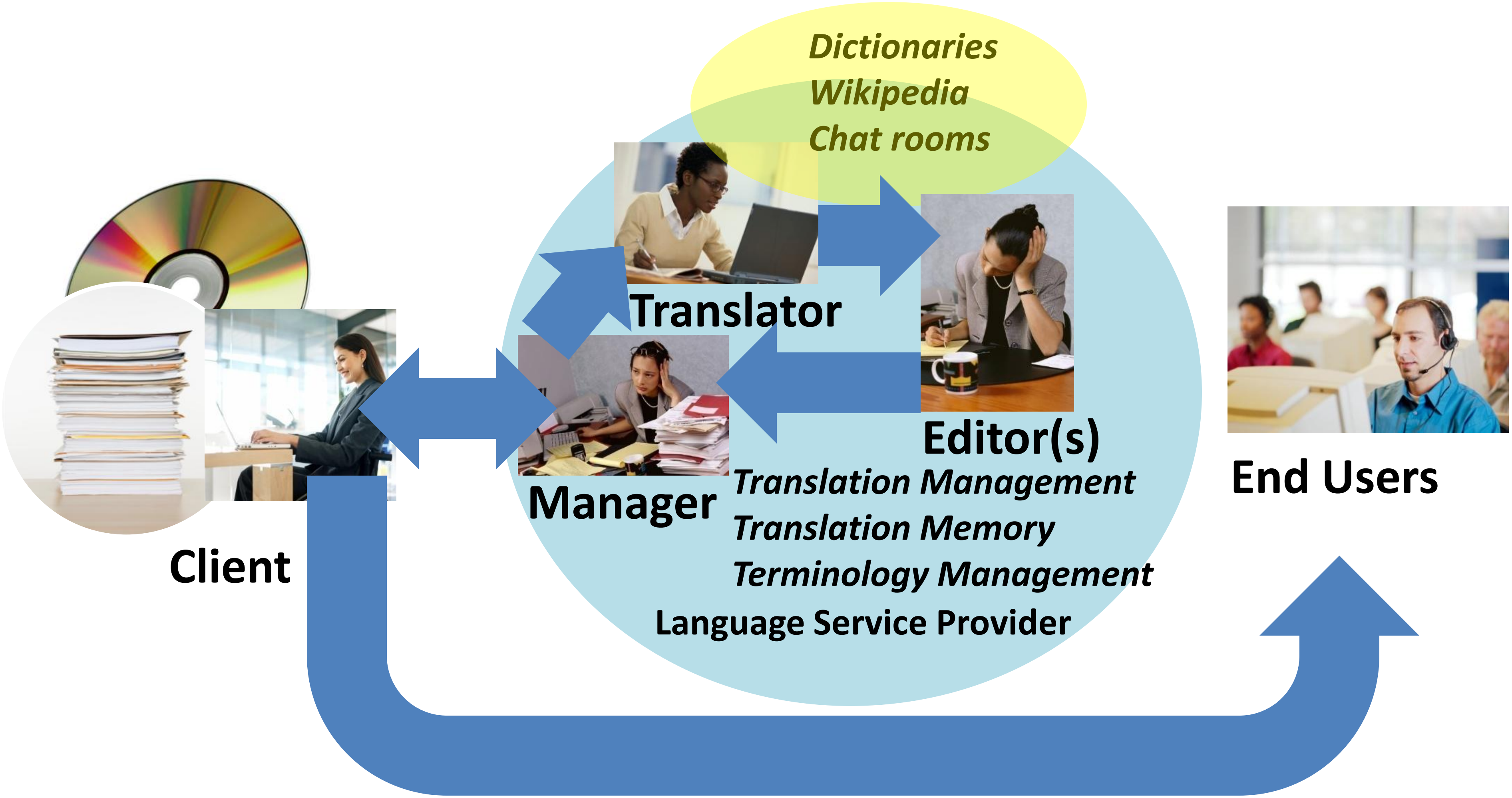


End Users

Free Internet MT
- Bablefish
- Altavista
- Systransoft
- Systranet
- Google Translate
- Free Translation (SDL)

Microsoft Windows Live Translator
Licensed Internet MT
Licensed In-House MT

Human Translation



Dictionaries
Wikipedia
Chat rooms

Translator

Editor(s)

Manager

Translation Management
Translation Memory
Terminology Management

Language Service Provider

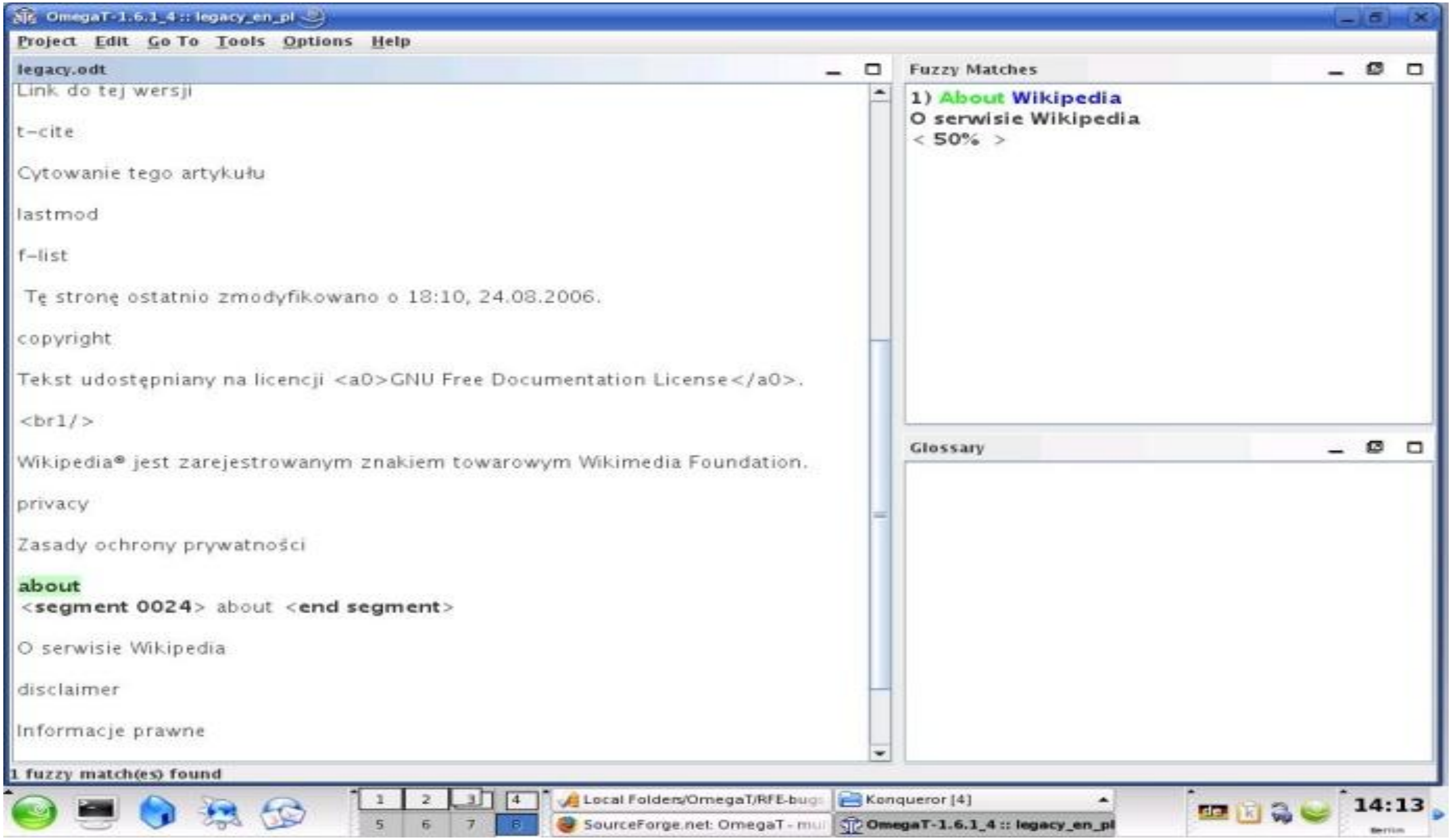
Client

End Users

Translation Memory

- Examples
  - Products: Across, Bee-Text, Multicorpora, SDL TRADOS, WordFast, LingoTek
  - Open Source: GlobalSight, Omega-T
- Based on MT research
- Align source and translated texts
- Presents past translations to translator
- Carried to extremes, it provides only text that has not been translated

GlobalSight Open Source TM



OmegaT-1.6.1_4 :: legacy_en_pl
Project Edit Go To Tools Options Help
legacy.odt
Fuzzy Matches
Glossary

Link do tej wersji

t-cite

Cytowanie tego artykułu

lastmod

f-list

Tę stronę ostatnio zmodyfikowano o 18:10, 24.08.2006.

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about
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O serwisie Wikipedia

disclaimer

Informacje prawne

1) About Wikipedia
O serwisie Wikipedia
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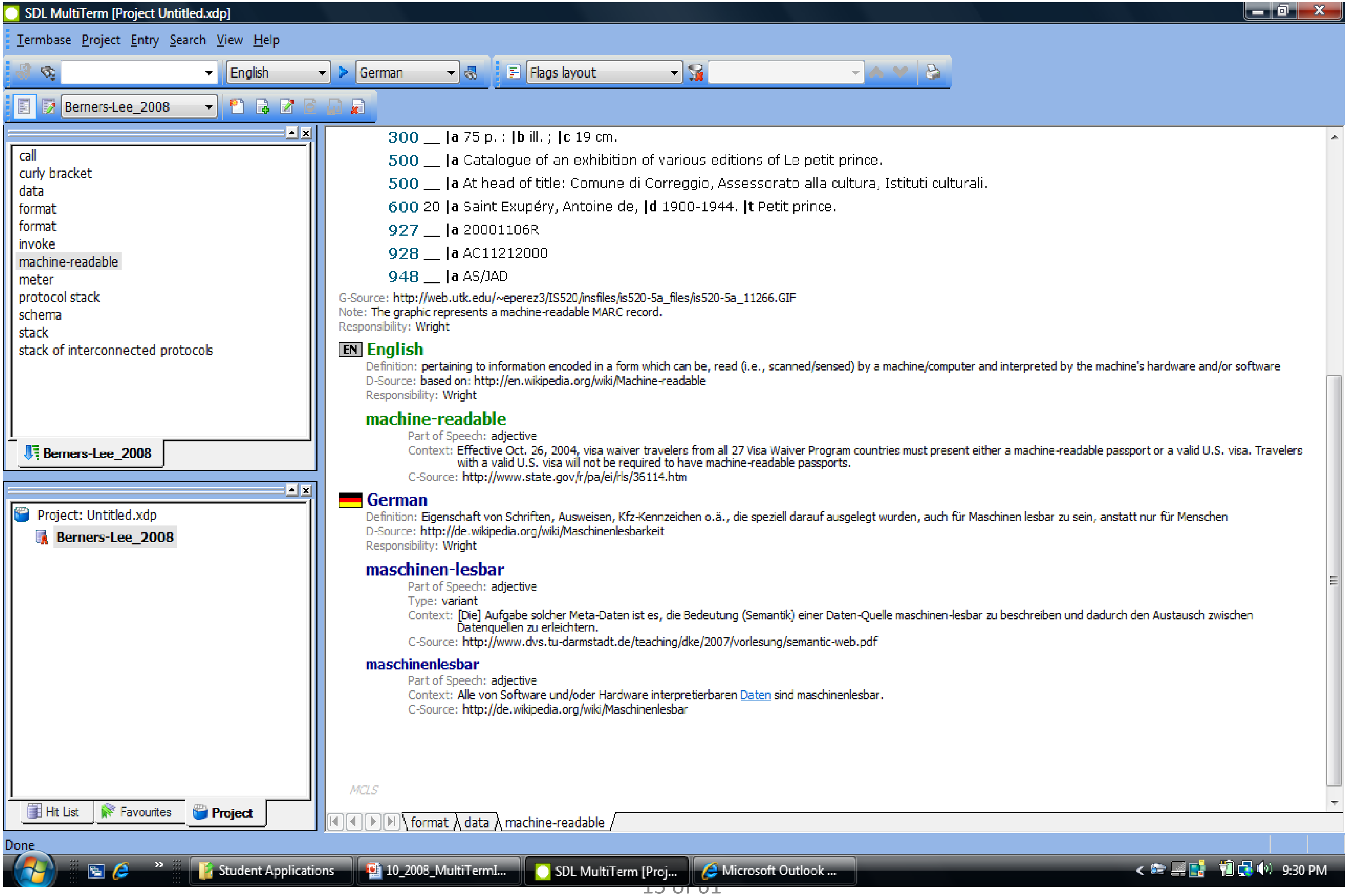
1 fuzzy match(es) found

1 2 3 4
5 6 7 8
Local Folders/OmegaT/RFE-bugs
SourceForge.net: OmegaT - mul
Konqueror [4]
OmegaT-1.6.1_4 :: legacy_en_pl
14:13

Terminology Management

- Examples:
  - MultiTerm, Terminotix, Etc.
- Dictionaries of approved terms
  - Content-oriented
  - Sometimes multiple languages
- Often developed by expert translators/ terminologists
- Usually results in clear single right term
  - Potential for MT?

SDL MultiTerm



call
curly bracket
data
format
format
invoke
machine-readable
meter
protocol stack
schema
stack
stack of interconnected protocols

```
300 __ |a 75 p. : |b ill. ; |c 19 cm.
500 __ |a Catalogue of an exhibition of various editions of Le petit prince.
500 __ |a At head of title: Comune di Correggio, Assessorato alla cultura, Istituti culturali.
600 20 |a Saint Exupéry, Antoine de, |d 1900-1944. |t Petit prince.
927 __ |a 20001106R
928 __ |a AC11212000
948 __ |a AS/JAD
```

G-Source: http://web.utk.edu/~eperez3/IS520/insfiles/is520-5a_files/is520-5a_11266.GIF
Note: The graphic represents a machine-readable MARC record.
Responsibility: Wright

EN **English**

Definition: pertaining to information encoded in a form which can be, read (i.e., scanned/sensed) by a machine/computer and interpreted by the machine's hardware and/or software
D-Source: based on: http://en.wikipedia.org/wiki/Machine-readable
Responsibility: Wright

machine-readable

Part of Speech: adjective
Context: Effective Oct. 26, 2004, visa waiver travelers from all 27 Visa Waiver Program countries must present either a machine-readable passport or a valid U.S. visa. Travelers with a valid U.S. visa will not be required to have machine-readable passports.
C-Source: http://www.state.gov/r/pa/ei/rls/36114.htm

German

Definition: Eigenschaft von Schriften, Ausweisen, Kfz-Kennzeichen o.ä., die speziell darauf ausgelegt wurden, auch für Maschinen lesbar zu sein, anstatt nur für Menschen
D-Source: http://de.wikipedia.org/wiki/Maschinenlesbarkeit
Responsibility: Wright

maschinen-lesbar

Part of Speech: adjective
Type: variant
Context: [Die] Aufgabe solcher Meta-Daten ist es, die Bedeutung (Semantik) einer Daten-Quelle maschinen-lesbar zu beschreiben und dadurch den Austausch zwischen Datenquellen zu erleichtern.
C-Source: http://www.dvs.tu-darmstadt.de/teaching/dke/2007/vorlesung/semantic-web.pdf

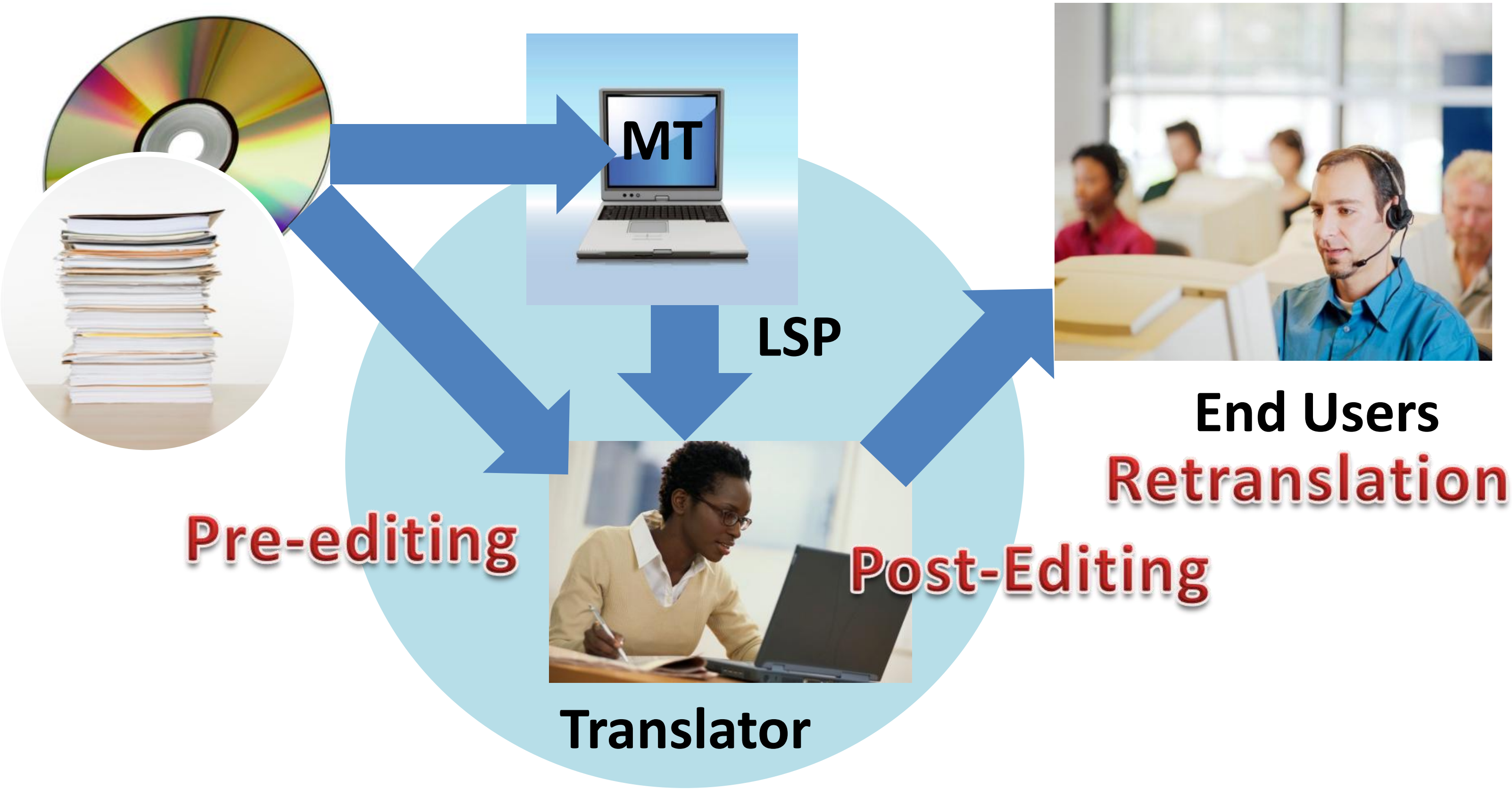
maschinenlesbar

Part of Speech: adjective
Context: Alle von Software und/oder Hardware interpretierbaren Daten sind maschinenlesbar.
C-Source: http://de.wikipedia.org/wiki/Maschinenlesbar

Research of Terms and Contexts

- Search
  - Google, Yahoo, etc.
  - TransSearch
  - Wikipedia
  - Multiple dictionaries
  - Chat rooms
  - Translator site bulletin boards
  - Blogs
- Communicate with
  - Language and language domain experts
  - Authors of text being translated
  - Developers
  - Subject Matter Experts
  - Users (focus groups)
  - Foreign marketing offices
  - Surveys
- Consult
  - Transliteration standards
  - Abbreviation and acronym conventions
- Disambiguate terms
- Document!

Machine Translation with Human Pre-Editing and/or PostEditing



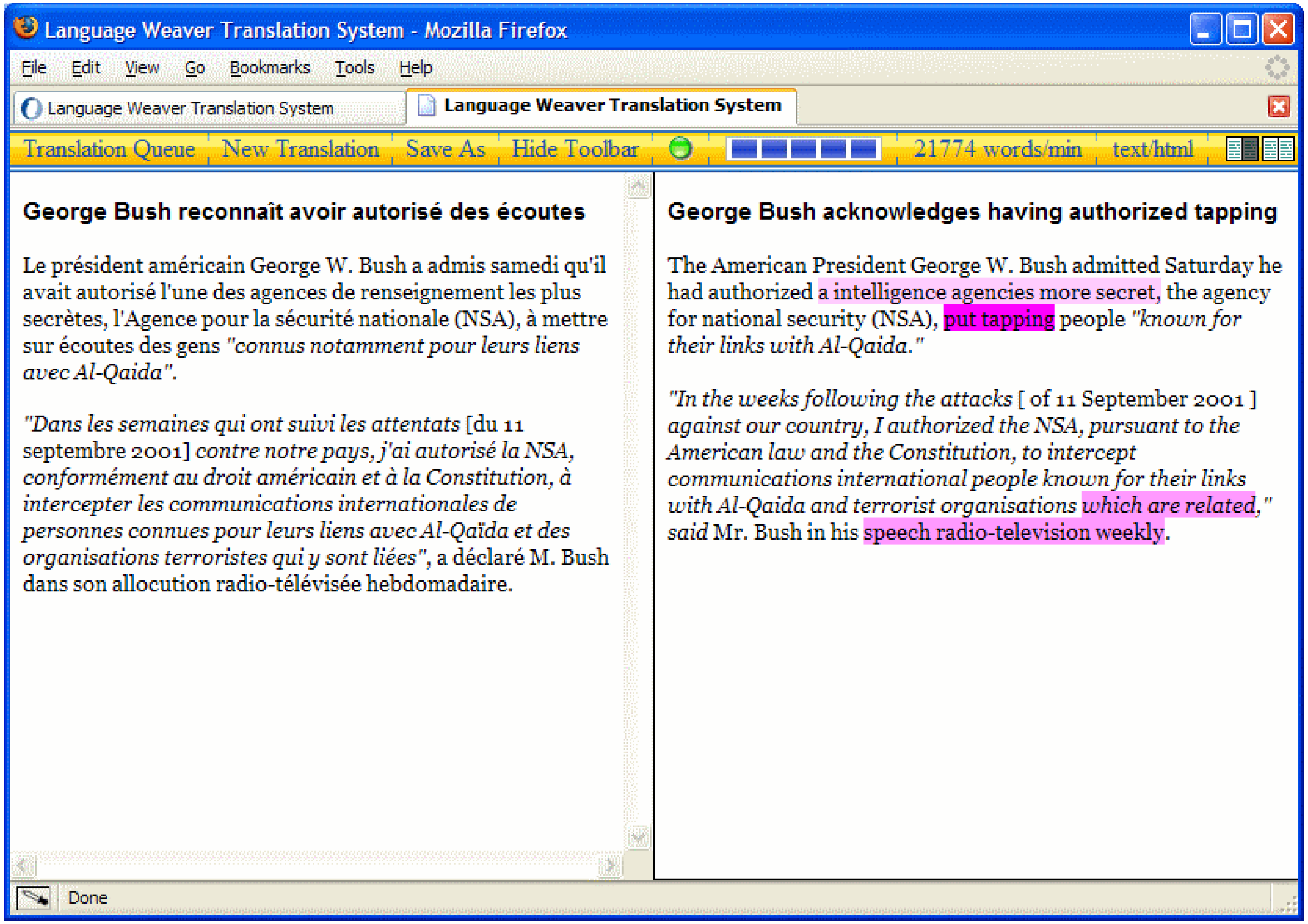
Pre-Editing

- Examples
  - Authoring systems
    - Xerox, Smart‘s MaxIT, Acrolynx, and AuthorIT
  - Translatability ratings
    - Bernth and Gdaniec (2001)
- Feedback to authors of text on how to make their writing more machine-translatable
  - Short sentences
  - Full sentences
  - Punctuation
  - Approved vocabulary
- Range from writing tips to controlled language

Post-Editing

- Examples
- Markup for translators
  - Areas needing work
  - Areas not needing work
- With no markup, translators must read source and target text. Source text is sometimes not read.
- Interesting editing and QA tools
  - TransType (RALI)

LanguageWeaver Confidence Rating


Language Weaver Translation System - Mozilla Firefox
File Edit View Go Bookmarks Tools Help
Language Weaver Translation System
Language Weaver Translation System
Translation Queue
New Translation
Save As
Hide Toolbar
21774 words/min
text/html
Done

George Bush reconnaît avoir autorisé des écoutes

Le président américain George W. Bush a admis samedi qu'il avait autorisé l'une des agences de renseignement les plus secrètes, l'Agence pour la sécurité nationale (NSA), à mettre sur écoutes des gens *"connus notamment pour leurs liens avec Al-Qaida"*.

"Dans les semaines qui ont suivi les attentats [du 11 septembre 2001] *contre notre pays, j'ai autorisé la NSA, conformément au droit américain et à la Constitution, à intercepter les communications internationales de personnes connues pour leurs liens avec Al-Qaïda et des organisations terroristes qui y sont liées"*, a déclaré M. Bush dans son allocution radio-télévisée hebdomadaire.

George Bush acknowledges having authorized tapping

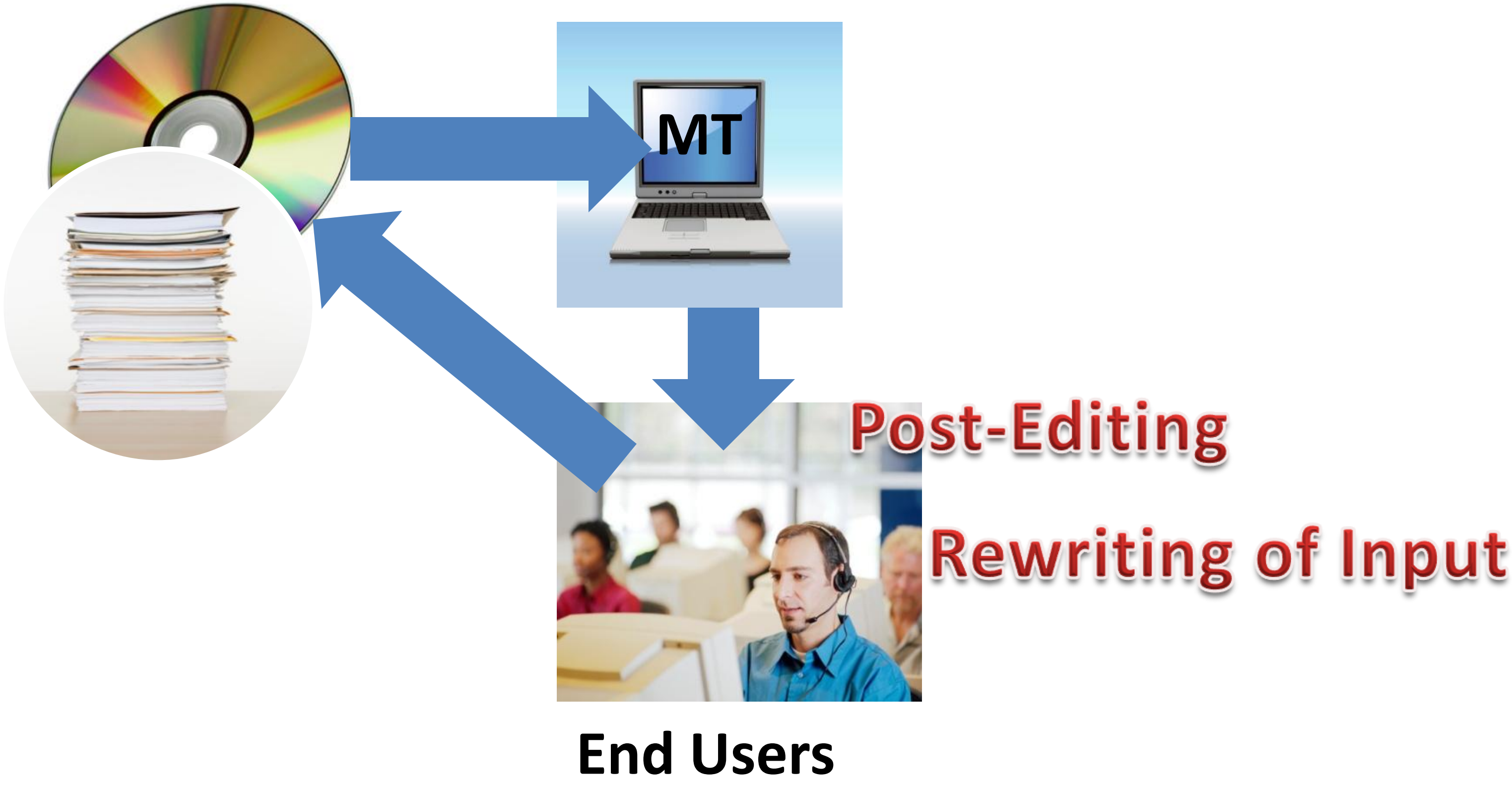
The American President George W. Bush admitted Saturday he had authorized a intelligence agencies more secret, the agency for national security (NSA), put tapping people *"known for their links with Al-Qaida."*

"In the weeks following the attacks [of 11 September 2001] *against our country, I authorized the NSA, pursuant to the American law and the Constitution, to intercept communications international people known for their links with Al-Qaida and terrorist organisations which are related," said* Mr. Bush in his speech radio-television weekly.

Tools for GIL

- Globalization, Internationalization, and Localization (GIL)
  - Globalization, Internationalization, and Localization Technology (GILT)
  - i18n, l10n, g11n
  - Locale
- Tools
  - Strip out text and provide it to translators
  - Help ensure consistency of usage
  - Provide information/means of dealing with differences between countries and regions
    - Language/dialect, voltage info, plug info, font preferences, color and design preferences (Common Locale Data Repository), spelling differences
    - Term differences (terminologies)
      - Useful for MT?

User-Centric MT with Tools?



Post-Editing

Rewriting of Input

End Users

Gaps

1. Use MT approaches to help HT
2. Use HT approaches to help MT

How do we better determine and provide term translations?

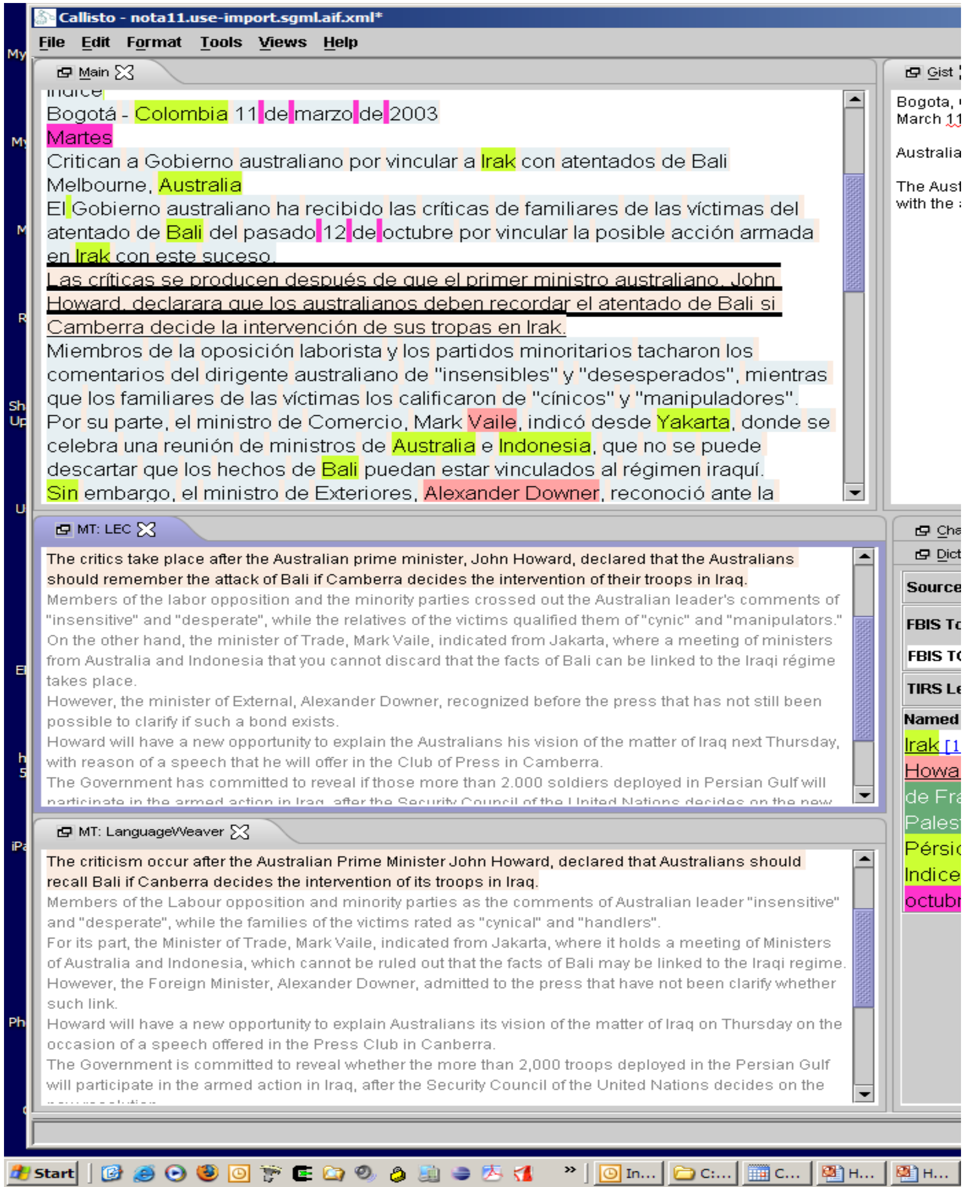
- What can we do besides provide dictionaries in electronic format?
  - WordNets
  - Translation Memory with context
  - TransSearch (RALI)
  - Morphological Analyzers (right approach?)
- How do we make the right word with the right conjugation appear in the user's translation with the least number of keystrokes?
- How can we share dictionaries and standardize terminology across tools?
  - ISO Lexical Markup Framework, OLIF, etc.

How do we build better dictionaries and terminologies?

- How do we find new terminology?
  - OOV / NFW searches?
  - Other?
- How do we develop definitions?
  - Can we automate more of the process?
    - Examples, larger term, distinguishing term, etc.
- How do we standardize terms?
  - Frequency is not always the best solution
- How do we provide easy conversion between terms in a translation?
  - Transliterated terms
  - Different terms
- How do we alert users that there may be synonyms?
- How do we disambiguate terms?
  - Frequency is not always the best solution
  - Cycle through by frequency?

How can we use MT to help translators?

- MITRE Research
- Each source sentence is visually aligned with usually two distinct machine translations of that sentence
  - Sentence boundaries are identified automatically
  - MT output can be copy + pasted into translation/gist authoring pane
- Provides context and overview
- Provides triangulation



indice

Bogotá - Colombia 11 de marzo de 2003

Martes

Critican a Gobierno australiano por vincular a Irak con atentados de Bali

Melbourne, Australia

El Gobierno australiano ha recibido las críticas de familiares de las víctimas del atentado de Bali del pasado 12 de octubre por vincular la posible acción armada en Irak con este suceso.

Las críticas se producen después de que el primer ministro australiano, John Howard, declarara que los australianos deben recordar el atentado de Bali si Camberra decide la intervención de sus tropas en Irak.

Miembros de la oposición laborista y los partidos minoritarios tacharon los comentarios del dirigente australiano de "insensibles" y "desesperados", mientras que los familiares de las víctimas los calificaron de "cínicos" y "manipuladores".

Por su parte, el ministro de Comercio, Mark Vaile, indicó desde Yakarta, donde se celebra una reunión de ministros de Australia e Indonesia, que no se puede descartar que los hechos de Bali puedan estar vinculados al régimen iraquí.

Sin embargo, el ministro de Exteriores, Alexander Downer, reconoció ante la

Bogota,
March 11

Australia

The Aust
with the

The critics take place after the Australian prime minister, John Howard, declared that the Australians should remember the attack of Bali if Camberra decides the intervention of their troops in Iraq.

Members of the labor opposition and the minority parties crossed out the Australian leader's comments of "insensitive" and "desperate", while the relatives of the victims qualified them of "cynic" and "manipulators."

On the other hand, the minister of Trade, Mark Vaile, indicated from Jakarta, where a meeting of ministers from Australia and Indonesia that you cannot discard that the facts of Bali can be linked to the Iraqi régime takes place.

However, the minister of External, Alexander Downer, recognized before the press that has not still been possible to clarify if such a bond exists.

Howard will have a new opportunity to explain the Australians his vision of the matter of Iraq next Thursday, with reason of a speech that he will offer in the Club of Press in Camberra.

The Government has committed to reveal if those more than 2.000 soldiers deployed in Persian Gulf will participate in the armed action in Iraq, after the Security Council of the United Nations decides on the new

The criticism occur after the Australian Prime Minister John Howard, declared that Australians should recall Bali if Canberra decides the intervention of its troops in Iraq.

Members of the Labour opposition and minority parties as the comments of Australian leader "insensitive" and "desperate", while the families of the victims rated as "cynical" and "handlers".

For its part, the Minister of Trade, Mark Vaile, indicated from Jakarta, where it holds a meeting of Ministers of Australia and Indonesia, which cannot be ruled out that the facts of Bali may be linked to the Iraqi regime.

However, the Foreign Minister, Alexander Downer, admitted to the press that have not been clarify whether such link.

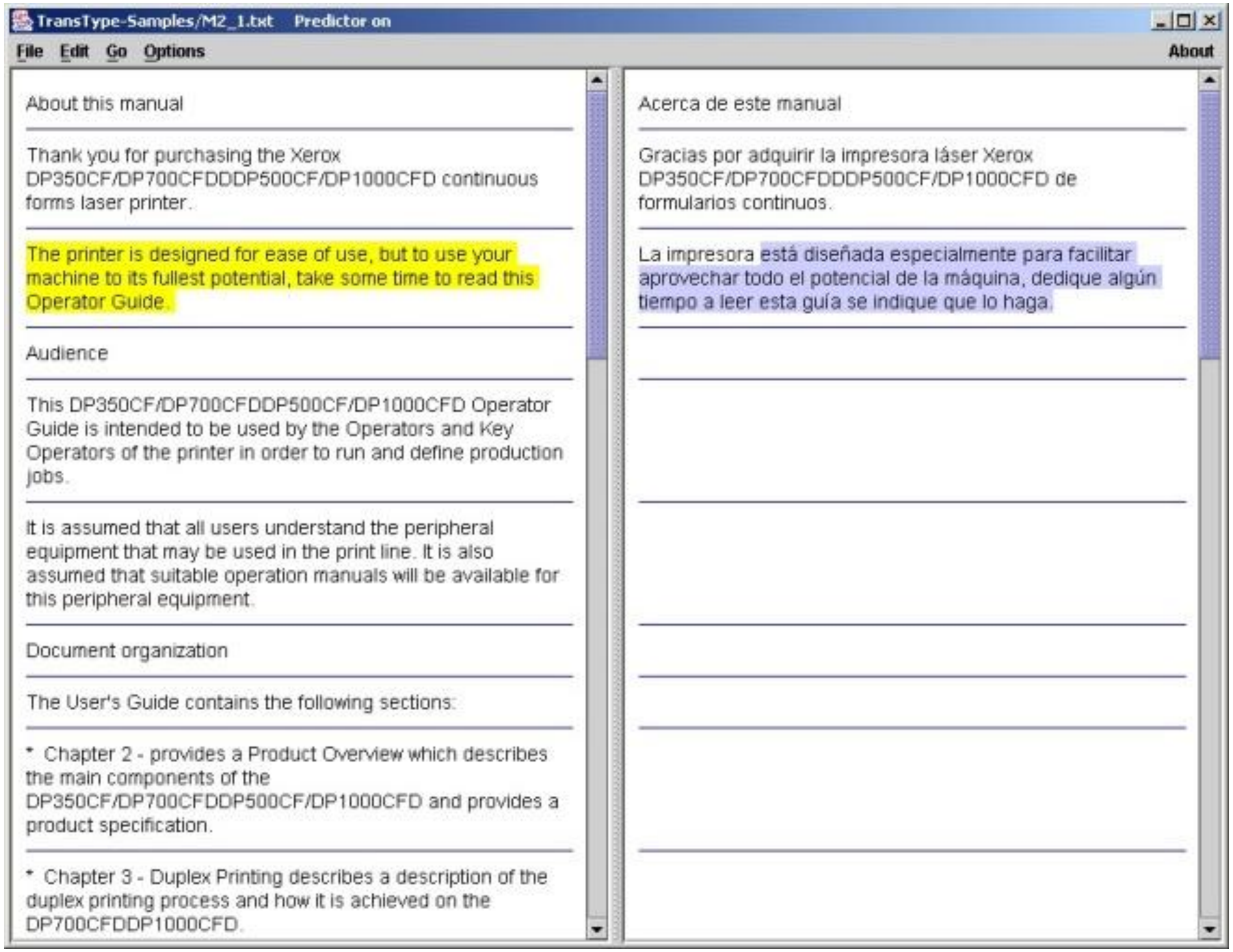
Howard will have a new opportunity to explain Australians its vision of the matter of Iraq on Thursday on the occasion of a speech offered in the Press Club in Canberra.

The Government is committed to reveal whether the more than 2,000 troops deployed in the Persian Gulf will participate in the armed action in Iraq, after the Security Council of the United Nations decides on the

How else can we use MT technologies?

- **TransType**
- EC’s Information Society Technologies (IST) Program
- Lapalme, Langlais, Macklovitch, Gandrabur, Nguyen, Nie
- Partners
  - Atos Origin
  - Lehrstuhl für Informatik VI, Computer Science Department, RWTH Aachen - University of Technology
  - Instituto Tecnológico de Informática, Universidad Politécnica de Valencia
  - RALI Laboratory - University of Montreal
  - Celer Soluciones
  - Société Gamma
  - Xerox Research Centre Europe
- Text prediction
  - Saves keystrokes
  - May increase speed and accuracy of translators

TransType



About this manual

Thank you for purchasing the Xerox DP350CF/DP700CFDDP500CF/DP1000CFD continuous forms laser printer.

The printer is designed for ease of use, but to use your machine to its fullest potential, take some time to read this Operator Guide.

Audience

This DP350CF/DP700CFDDP500CF/DP1000CFD Operator Guide is intended to be used by the Operators and Key Operators of the printer in order to run and define production jobs.

It is assumed that all users understand the peripheral equipment that may be used in the print line. It is also assumed that suitable operation manuals will be available for this peripheral equipment.

Document organization

The User's Guide contains the following sections:

* Chapter 2 - provides a Product Overview which describes the main components of the DP350CF/DP700CFDDP500CF/DP1000CFD and provides a product specification.

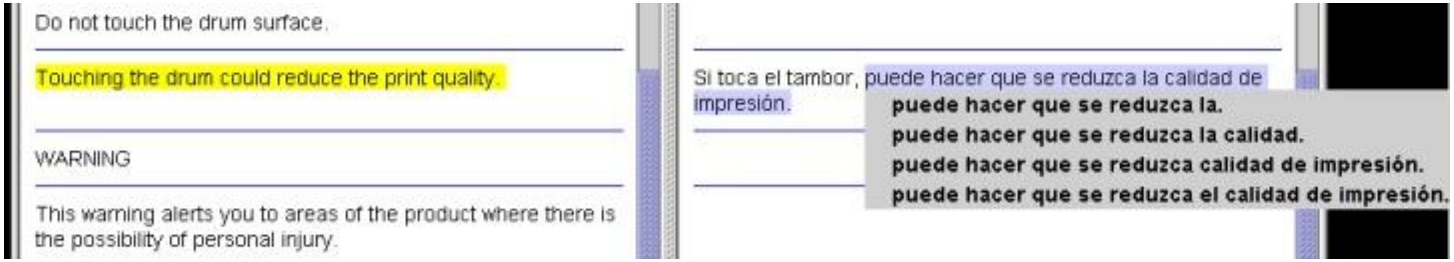
* Chapter 3 - Duplex Printing describes a description of the duplex printing process and how it is achieved on the DP700CFDDP1000CFD.

Acerca de este manual

Gracias por adquirir la impresora láser Xerox DP350CF/DP700CFDDDP500CF/DP1000CFD de formularios continuos.

La impresora está diseñada especialmente para facilitar aprovechar todo el potencial de la máquina, dedique algún tiempo a leer esta guía se indique que lo haga.

TransType: Options



Do not touch the drum surface.

Touching the drum could reduce the print quality.

WARNING

This warning alerts you to areas of the product where there is the possibility of personal injury.

Si toca el tambor, puede hacer que se reduzca la calidad de impresión.

- puede hacer que se reduzca la.
- puede hacer que se reduzca la calidad.
- puede hacer que se reduzca calidad de impresión.
- puede hacer que se reduzca el calidad de impresión.

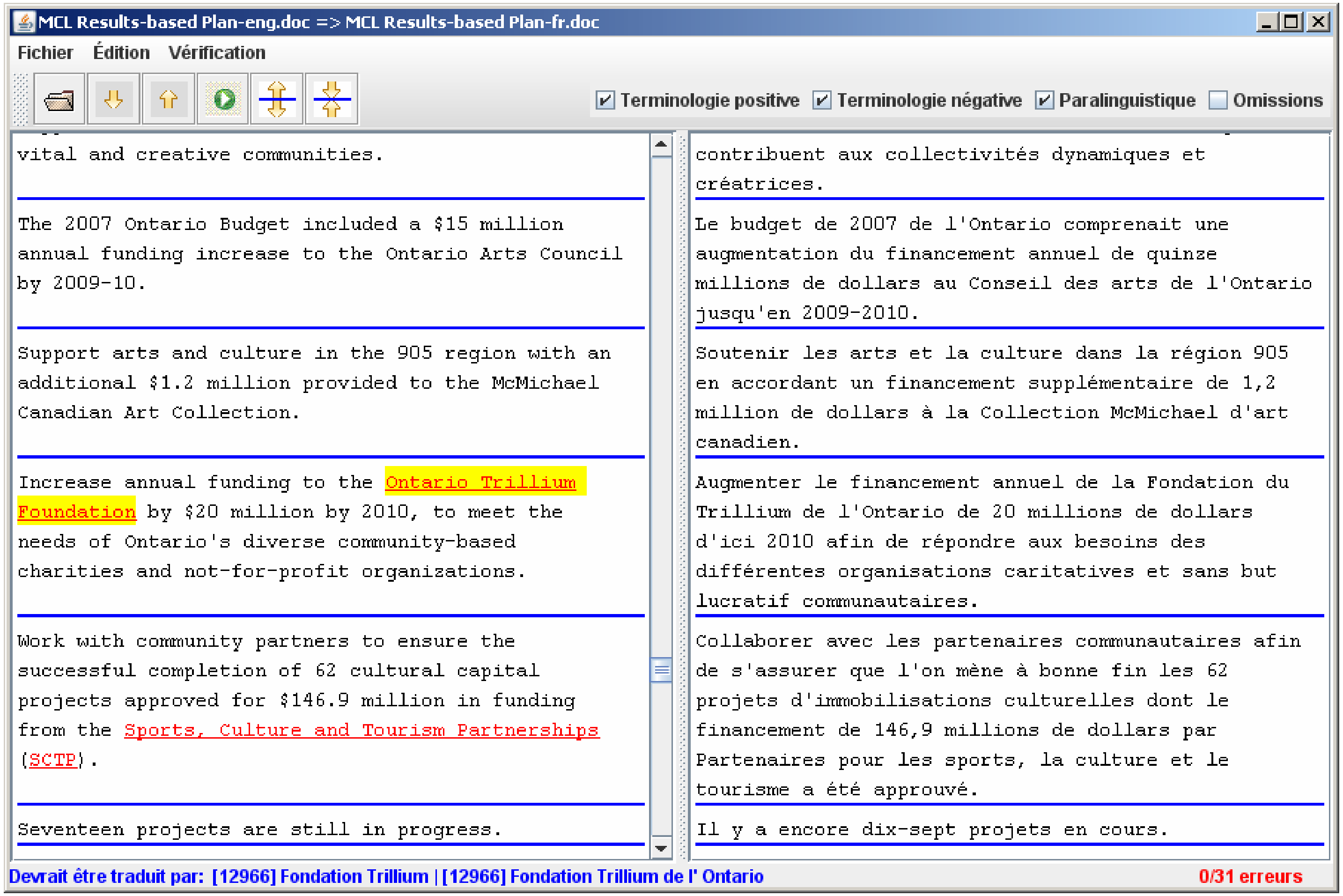
Use of MT and TM to Spot-Check Quality

- *Compare source and translated texts to identify problems with*
  - *Omissions*
  - *Numerical expressions*
  - *Source language interference* *(Macklovitch)*
    - E.g., False cognates
      - Library and librairie
- *Check consistent use of terms*
- *Test translators*

Use of Tools to Get Bilingual Concordances of Terms

- To
  - Check context
  - Research alternatives
  - Develop terminologies and/or new dictionaries
- Translation Memory
- Search
  - TransSearch (RALI)
  - In house or restricted high-quality search
  - Internet search
- Many opportunities for analysis and development

TransSearch



MCL Results-based Plan-eng.doc => MCL Results-based Plan-fr.doc

☑ Terminologie positive ☑ Terminologie négative ☑ Paralinguistique ☐ Omissions

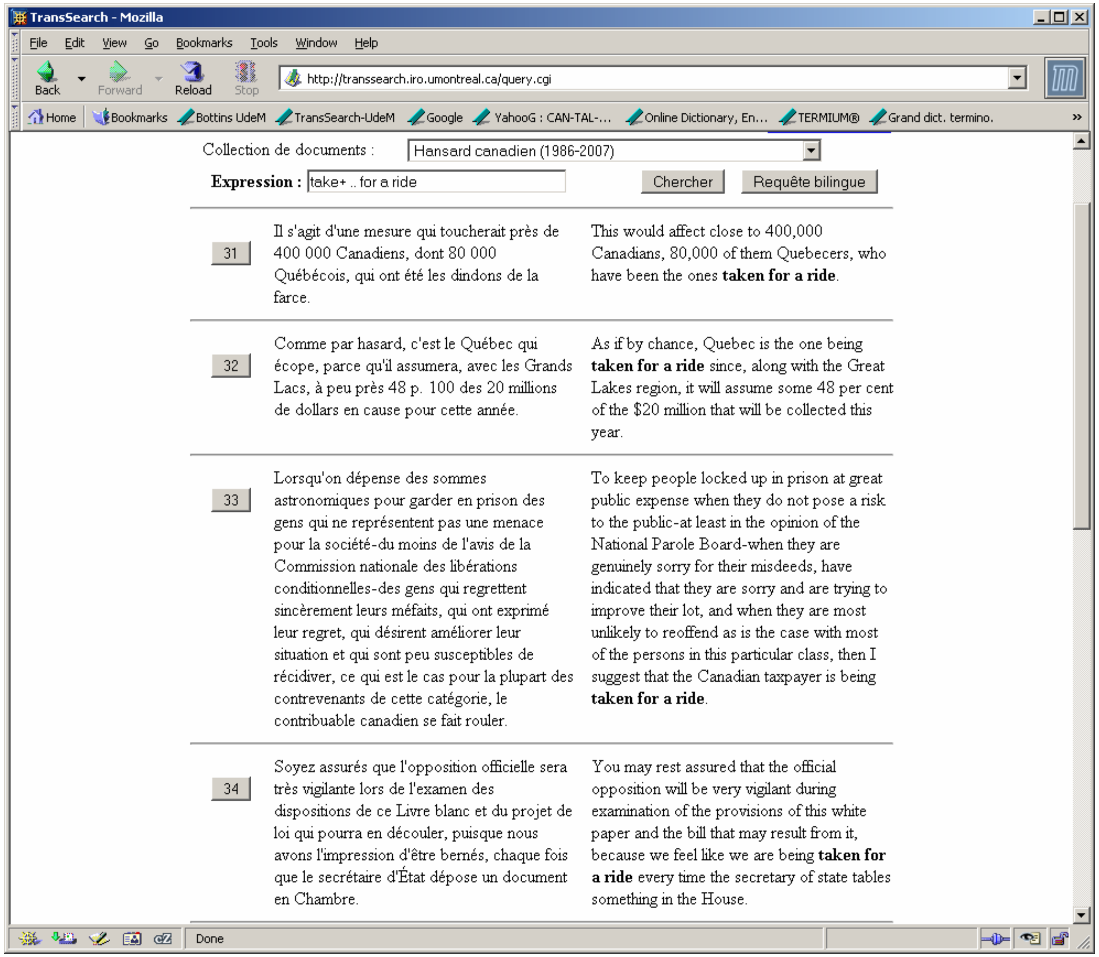
vital and creative communities.	contribuent aux collectivités dynamiques et créatrices.
The 2007 Ontario Budget included a $15 million annual funding increase to the Ontario Arts Council by 2009-10.	Le budget de 2007 de l'Ontario comprenait une augmentation du financement annuel de quinze millions de dollars au Conseil des arts de l'Ontario jusqu'en 2009-2010.
Support arts and culture in the 905 region with an additional $1.2 million provided to the McMichael Canadian Art Collection.	Soutenir les arts et la culture dans la région 905 en accordant un financement supplémentaire de 1,2 million de dollars à la Collection McMichael d'art canadien.
Increase annual funding to the Ontario Trillium Foundation by $20 million by 2010, to meet the needs of Ontario's diverse community-based charities and not-for-profit organizations.	Augmenter le financement annuel de la Fondation du Trillium de l'Ontario de 20 millions de dollars d'ici 2010 afin de répondre aux besoins des différentes organisations caritatives et sans but lucratif communautaires.
Work with community partners to ensure the successful completion of 62 cultural capital projects approved for $146.9 million in funding from the Sports, Culture and Tourism Partnerships (SCTP).	Collaborer avec les partenaires communautaires afin de s'assurer que l'on mène à bonne fin les 62 projets d'immobilisations culturelles dont le financement de 146,9 millions de dollars par Partenaires pour les sports, la culture et le tourisme a été approuvé.
Seventeen projects are still in progress.	Il y a encore dix-sept projets en cours.

Devrait être traduit par: [12966] Fondation Trillium | [12966] Fondation Trillium de l' Ontario

0/31 erreurs

Unit handled a 53% increase in the number of terms rendered into French

TransSearch



Collection de documents : Hansard canadien (1986-2007)

Expression : take+ .. for a ride

31	Il s'agit d'une mesure qui toucherait près de 400 000 Canadiens, dont 80 000 Québécois, qui ont été les dindons de la farce.	This would affect close to 400,000 Canadians, 80,000 of them Quebecers, who have been the ones **taken for a ride**.
32	Comme par hasard, c'est le Québec qui écope, parce qu'il assumera, avec les Grands Lacs, à peu près 48 p. 100 des 20 millions de dollars en cause pour cette année.	As if by chance, Quebec is the one being **taken for a ride** since, along with the Great Lakes region, it will assume some 48 per cent of the $20 million that will be collected this year.
33	Lorsqu'on dépense des sommes astronomiques pour garder en prison des gens qui ne représentent pas une menace pour la société-du moins de l'avis de la Commission nationale des libérations conditionnelles-des gens qui regrettent sincèrement leurs méfaits, qui ont exprimé leur regret, qui désirent améliorer leur situation et qui sont peu susceptibles de récidiver, ce qui est le cas pour la plupart des contrevenants de cette catégorie, le contribuable canadien se fait rouler.	To keep people locked up in prison at great public expense when they do not pose a risk to the public-at least in the opinion of the National Parole Board-when they are genuinely sorry for their misdeeds, have indicated that they are sorry and are trying to improve their lot, and when they are most unlikely to reoffend as is the case with most of the persons in this particular class, then I suggest that the Canadian taxpayer is being **taken for a ride**.
34	Soyez assurés que l'opposition officielle sera très vigilante lors de l'examen des dispositions de ce Livre blanc et du projet de loi qui pourra en découler, puisque nous avons l'impression d'être bernés, chaque fois que le secrétaire d'État dépose un document en Chambre.	You may rest assured that the official opposition will be very vigilant during examination of the provisions of this white paper and the bill that may result from it, because we feel like we are being **taken for a ride** every time the secretary of state tables something in the House.

Macklovitch, Lapalme, Gotti, 2009

TransSearch

20 Most Frequent 2-Word Queries

What could be done with this kind of data?

Query	**Freq.**	**Query**	**Freq.**
as such	1195	as of	533
over time	1046	most importantly	530
consistent with	743	more importantly	511
in turn	708	where appropriate	499
hard work	680	as per	493
along with	669	due diligence	486
subject to	655	build on	483
based on	649	in particular	478
as required	609	focus on	472
as appropriate	587	where possible	461

Macklovitch, Lapalme, Gotti, 2009

Use of Intelligent Templates

- Martin Kay, Xerox PARC
- Restricted options for translators

How can we get better HT Training?

- MT incorporated into subject-focused training
  - Egan 2009
- Provide automatically-generated lessons on highly relevant subject matter

How can we improve post-editing?

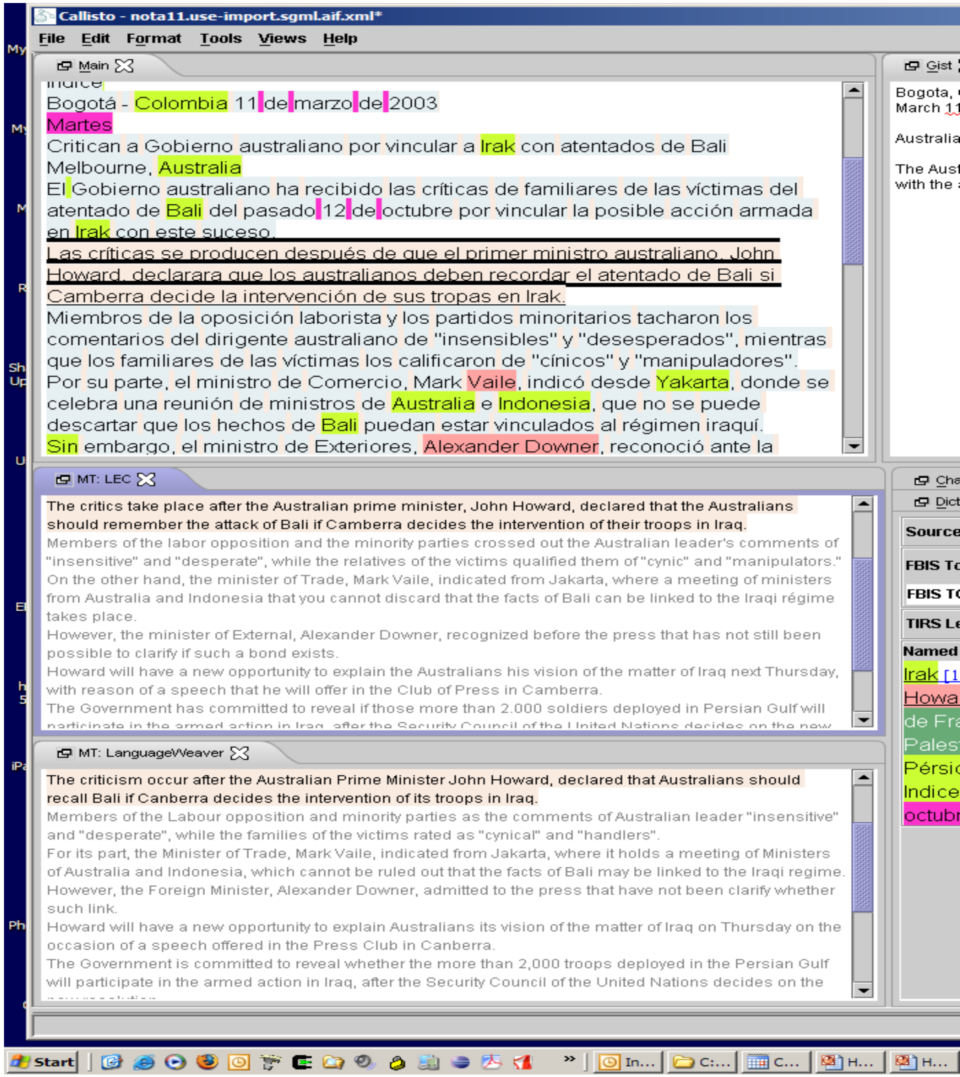
- Mark the problems for the post-editors
- Provide information on the specific problems
  - Kind of problem
  - Suggested change
  - Linked resources for making change/getting info
- Provide other info
  - Tips on getting better output
- Automate some post-editing (Doyen et al. 2008)

How can we improve pre-editing?

- Automate some parts
- Make “checkers” less intrusive
- Use source text analysis in additional ways
  - Translatability Ratings (Bernth & Gdaniec 2001)
  - Problem tagging (DeCamp 2009)

Use of MT, Entity Tagging, and Other Tools

- Examples
  - MITRE research
    - Day et al.
  - CACI Language Workbench
- Help routing
- Provide overview
- Call up resources?


Callisto - nota11.use-import.sgml.aif.xml*
File Edit Format Tools Views Help
Main
MT: LEC
MT: LanguageWeaver
Gist
Source
Named
Start

Indice

Bogotá - Colombia 11 de marzo de 2003

Martes

Critican a Gobierno australiano por vincular a Irak con atentados de Bali

Melbourne, Australia

El Gobierno australiano ha recibido las críticas de familiares de las víctimas del atentado de Bali del pasado 12 de octubre por vincular la posible acción armada en Irak con este suceso.

Las críticas se producen después de que el primer ministro australiano, John Howard, declarara que los australianos deben recordar el atentado de Bali si Camberra decide la intervención de sus tropas en Irak.

Miembros de la oposición laborista y los partidos minoritarios tacharon los comentarios del dirigente australiano de "insensibles" y "desesperados", mientras que los familiares de las víctimas los calificaron de "cínicos" y "manipuladores".

Por su parte, el ministro de Comercio, Mark Vaile, indicó desde Yakarta, donde se celebra una reunión de ministros de Australia e Indonesia, que no se puede descartar que los hechos de Bali puedan estar vinculados al régimen iraquí.

Sin embargo, el ministro de Exteriores, Alexander Downer, reconoció ante la

MT: LEC

The critics take place after the Australian prime minister, John Howard, declared that the Australians should remember the attack of Bali if Camberra decides the intervention of their troops in Iraq.

Members of the labor opposition and the minority parties crossed out the Australian leader's comments of "insensitive" and "desperate", while the relatives of the victims qualified them of "cynic" and "manipulators."

On the other hand, the minister of Trade, Mark Vaile, indicated from Jakarta, where a meeting of ministers from Australia and Indonesia that you cannot discard that the facts of Bali can be linked to the Iraqi régime takes place.

However, the minister of External, Alexander Downer, recognized before the press that has not still been possible to clarify if such a bond exists.

Howard will have a new opportunity to explain the Australians his vision of the matter of Iraq next Thursday, with reason of a speech that he will offer in the Club of Press in Camberra.

The Government has committed to reveal if those more than 2.000 soldiers deployed in Persian Gulf will participate in the armed action in Iraq, after the Security Council of the United Nations decides on the new

MT: LanguageWeaver

The criticism occur after the Australian Prime Minister John Howard, declared that Australians should recall Bali if Canberra decides the intervention of its troops in Iraq.

Members of the Labour opposition and minority parties as the comments of Australian leader "insensitive" and "desperate", while the families of the victims rated as "cynical" and "handlers".

For its part, the Minister of Trade, Mark Vaile, indicated from Jakarta, where it holds a meeting of Ministers of Australia and Indonesia, which cannot be ruled out that the facts of Bali may be linked to the Iraqi regime.

However, the Foreign Minister, Alexander Downer, admitted to the press that have not been clarify whether such link.

Howard will have a new opportunity to explain Australians its vision of the matter of Iraq on Thursday on the occasion of a speech offered in the Press Club in Canberra.

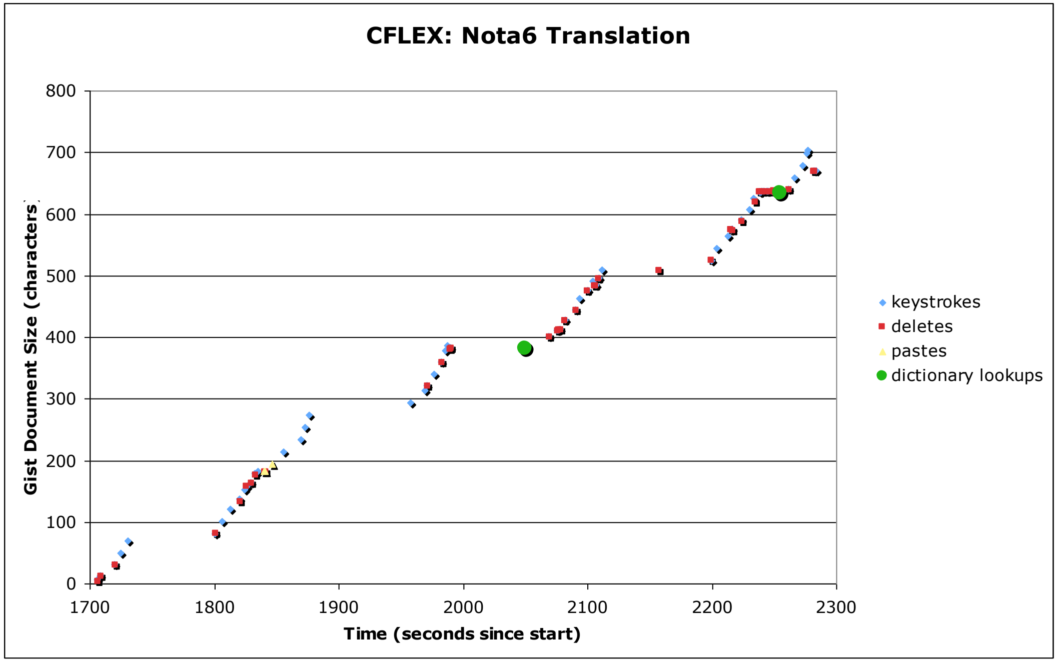
The Government is committed to reveal whether the more than 2,000 troops deployed in the Persian Gulf will participate in the armed action in Iraq, after the Security Council of the United Nations decides on the

How Can We Improve Retranslation?

- If a user requests a retranslation of a passage or document, how can we better understand what he/she needs?
- How can we quickly provide it?
  - What additional information can we send without going back to a translator?

How can we better understand translators? How can we help translators use tools?

- Automated logging
- Recommender systems
- Examples
  - TransType
  - MITRE
- Testing difficult



How Can We Improve MT with HT Practices?

- Footnoting and annotation
- Multiple meanings with examples

Translator and User Acceptance

- Translators and Post-Editors
- Tolerance depends—and can change
  - Group (demographics, etc.)
  - Tasks and objectives
  - Training and exposure
  - Perception of helpfulness of tools
    - May be influenced by simple issues such as access
- Perception of their customers' requirements
- Difficult to assess productivity gains due to so many factors in human translation

Conclusions

1. The term “translation” covers many tasks and requirements.
2. There are many means of meeting these requirements with HT, MT, and a combination, depending on needs for accuracy, fluency, etc.
3. There is much room for research and development

   MT to HT

   HT to MT

At the Technology Showcase

- **Friday, August 28**

- Dictionaries
  - Army Research Labs
  - WordScape
- Translation Memory and/or Tools for Translators
  - Basis Technology (particularly input methods)
  - Canadian Translation Bureau
  - MultiCorpora
  - PAHO
  - ProMT
  - SDL and LanguageWeaver
- Document Triage and Handling
  - CACI
  - Center for Applied MT