A Strategic Inflection Point for Translation

Subtitle

Will Burgett, PMP®
Program Manager, Localization Innovation
Intel.com and Online Technologies
November 28, 2013
Legal Notices

This presentation is for informational purposes only. INTEL MAKES NO WARRANTIES, EXPRESS OR IMPLIED, IN THIS SUMMARY.

Intel and the Intel logo are trademarks of Intel Corporation in the U.S. and/or other countries.

* Other names and brands may be claimed as the property of others.

Copyright © 2013, Intel Corporation. All rights reserved.
Overview

• Finding the Doctor in London
• The streams of content
• A Strategic Inflection Point for translation
• It takes an ecosystem of technology
• How large global enterprises are focusing on machine translation
• The future of human and machine translation
Finding the Doctor in London
The Translation Circuit

• Part of the TARDIS* that allows instantaneous translation of most spoken or written languages in the universe.

• The Ninth Doctor told Rose Tyler that the translation circuit was a "gift of the TARDIS, a telepathic field that gets inside your brain and translates." (TV: *The End of the World*).

• The Doctor himself was a part of the circuit, without whom the circuit was broken.

• When the Tenth Doctor was incapacitated due to post-regenerative crisis, Rose lost access to the circuit, and could no longer understand other languages. (TV: *The Christmas Invasion*).

• This technology came from the 42nd Century.

Source: *TARDIS Data Core*

*Other names and brands may be claimed as the property of others*
For Earth, the beginning was different.

TRANSLATION: YESTERDAY, TODAY, TOMORROW

Source: TAUS
Thousands of years later, on January 7, 1954
Georgetown-IBM MT system on Russian

IBM* model 701

60 relatively simple Russian sentences gave a fairly accurate English translation.

*Other names and brands may be claimed as the property of others
Today MT is translating a constant stream of content
But isn’t it really a tsunami!
Timeline of Information and Retrieval Systems

- 9,000 BCE Agriculture
- 3,000 BCE Written Languages
- 2,500 BCE Papyrus (paper) technology
- 390 BCE Plato’s Forms
- 340 BCE Aristotle’s Categories
- 2nd Century BCE Septuagint Translation Hebrew-to-Koine Greek
- 280 BCE Founding of Library at Alexandria 700,000 Documents
- 280 BCE Founding of Library at Alexandria
- 850 First Printed Book (China)
- 1455 Gutenberg’s Printing Press
- 1600 Cartesian Coordinates
- 1878 Dewey’s Numeric Classifications
- 1946 First Electronic Computer
- 1950 First citation of “Information Retrieval”
- 1954 Georgetown-IBM* MT English-Russian
- 1990 Birth of the World Wide Web
- 1993 Mosaic GUI Browser
- 1994 Yahoo*
- 1998 Google*
- 2004 Facebook*
- 2006 Twitter*

Library of Congress 100M

Social media (Facebook, Twitter, etc.) 15 Petabytes info/day

Based on source: Ned Fielden, San Francisco State University
Wave upon wave of digital information

Amount of global digital information created & shared – from documents to pictures to tweets – grew 9x in five years to nearly 2 zettabytes* in 2011, per IDC.

(2,000,000,000,000 gigabytes)

Global Digital Information Created & Shared, 2005 – 2015E

Note: * 1 zettabyte = 1 trillion gigabytes.
The Digital Universe: China Growth

Will grow from 364 exabytes to 8.6 zettabytes 2012 – 2020, 50% a year, more than doubling every two years.

China’s share of the global digital universe will grow 13%-21% between 2012 – 2020. Printed out as text it would make a stack of books that reach from Earth to Pluto and back 30 times.

A Strategic Inflection Point for Translation

- The Internet
- Explosion in the number of devices
- Languages
- Emerging markets
- Shift in geo revenue
- Tsunami of content
- Urgency to get-to-market
- Translation velocity
- Machine translation
- Social media

Google* CEO Eric Schmidt predicted by 2014 the internet will be dominated by the Chinese language

Intel Geographic Breakdown of Revenue (79% outside Americas in 2011)

Internet Users by Language (in millions)

Source: 2011 Internet-World Stats
Strategic Response to Translation Inflection Point

**CAUSES**
- The Internet
- Explosion in the number of devices
- Languages
- Emerging markets
- Shift in geo revenue
- Tsunami of content
- Urgency to get-to-market
- Translation velocity
- Machine translation
- Social media

**NEW PARADIGM**
- Accept change
- Adjust methods
  - Content quality management
  - Translation automation
  - Workflow automation
  - Crowd sourcing
  - Personalization
  - Convergence

**OLD PARADIGM**
- Reject change
  - Maintain status quo
Example of another strategic inflection point caused by dramatic changes in technology

**Silent Movies**

- Something fundamental changed when the Jazz Singer debuted on October 6, 1927. With that single qualitative change, the lives of many people, stars, directors, and technicians of silent movies changed forever.

- Some made the change (Greta Garbo)

- Some tried to adapt and failed (Mary Pickford)

- Some became obsolete (theatre musicians)

- Others in denial, clung to the old trade (Charlie Chaplin)
If it was only easy to do!
But it takes an IT ecosystem for an enterprise to manage the tsunami
Example of how corporations can adjust to the translation inflection point in customer care using MT

**Global Knowledge Bases**
Delivering support in the customer’s language to ensure a good user experience.

**Cross Language Chat**
Real-time customer support using multilingual chat (for example, English <-> German).

**Global Support Forums**
Extend customer support by enabling “many to many” community support.

**Multilingual Email**
Enables global support agents to answer customer questions without having to know the customer’s language.

**Sentiment Analysis**
Brand makers need to know what customers are saying about products by region and language, and use that data to improve products, service, and the user experience.
Before MT, Intel could only afford to translate about 15% of the 10,000 customer support files for any given language.


Today we have 10 languages in support.intel.com with eight using MT. 97% of the content is translated by MT (unedited) into Latin American Spanish, Brazilian Portuguese, French, Italian, Russian, Chinese-Simplified, Chinese-Traditional, and Korean.

Runs on an automated 24-hour cycle, English-to-target language.
Hello - I'm new to this forum and am not a super-techie, so I hope someone can help me solve this issue. Whenever I reboot, I get the error "Diskette Drive 0 Seek Error", and have to hit F1 to continue. I have tried modifying the boot config to remove any reference to a diskette, but it keeps thinking I have one. Also, when there's a power failure, my clock resets to 1/1/97 which really screws things up until I remember to adjust the time. I am told the battery on the motherboard needs to be replaced.

This PC is a few years old...what it says specifically in general system properties is:

Intel® Core™ Duo CPU
E4500 @2.20GHz, 1.96 GB of RAM
Physical Address Extension

I'm running MS Windows XP Professional Version 2002, Service Pack 3

Can I replace the battery on the motherboard, how would I go about doing this and is it difficult?

Would that solve both these issues?

Thanks in advance for your assistance!

Search

Translation:

Hola - soy nuevo en este foro y no soy un super-techie, así que espero que alguien me pueda ayudar a resolver este problema. Cada vez que reinicio, me sale el error "Disquete Drive 0 Seek Error" y tiene que golpear F1 para continuar. Hice intentado modificar la configuración de arranque para eliminar cualquier referencia a un disquete, pero me mantiene pensando que yo tengo uno. También, cuando hay un apagón, mi reloj restablece 01/01/97 cosas realmente los terremotos hasta que recuerdo ajustar la hora. Me dicen que la batería de la placa base haya fallado.

Este PC es unos años... lo que dice específicamente en general es de propiedades del sistema:

Intel® Core™ Duo CPU
E4500 @2.20GHz, 1.96 GB of RAM

Extension de dirección física

Estoy corriendo MS Windows XP Professional Version 2002, Service Pack 3

¿Puedo sustituir la batería en la placa base, ¿cómo hago esto, y es difícil? ¿Resolviendo también preguntas?

Translation: [ Por favor espere un operador del sitio respondier. ]

You are now chatting with 'Ryan'

Translation: [ Que ahora está conversando con 'Ryan'. ]

Ramón: Hola.

Translation: [ Hola. ]

Ryan: Hola.

Translation: [ ¿Cómo puedo ayudarte? ]

Tengo una mother board que no funciona.

Request a different translation.

Language | Translation Preview

Translation: I have a motherboard that doesn't work.
Reverse: Tengo una mother board que no funciona.
Multilingual Intel Customer Support Community Forum (real time, unedited)

- MT used 19766 times from January to September 2013; an average of 73 uses/day
- 67% of translations are rated Four or Five stars (scale 1-to-5) in quality
The future of machine translation

TAUS*

- Proposes that translation is becoming a utility similar to electricity, internet or water. Always available. Real-time when needed.

Google*

- Google Translate provides a billion translations a day for 200 million users (equivalent to more than one million books).
- 71 languages.
- 92 percent of the usage is from people outside the United States.

Google tomorrow
- More languages, better quality
- Ubiquity; no matter where you are, you should have access to a translation.
- Real-time, multilingual communication: Smartphone, tablets

*Other names and brands may be claimed as the property of others
The future of MT continued...

- **Microsoft**
  - “In the not too distant future, via smartphone or tablet, you might ask about your dinner options in a Parisian restaurant, give detailed directions to a taxi driver in Moscow, or discuss a business deal with potential partners in Tokyo—fluently, in your own voice, without knowing a word of French, Russian, or Japanese.”

*Other names and brands may be claimed as the property of others*
The future for translators

- **TAUS***
  - Just 250,000 or so professional translators in a world of 6,000 languages.
  - The future for translators looks bright, but they will have to reinvent the profession first.

- **Asia Online***
  - Estimated that translators translate only about 0.00000067% of the text information created everyday!
  - By 2015 there will be more demand for translators and more translators than ever before.

*Other names and brands may be claimed as the property of others*
Summary

• Content, rather than a stream, is more like an ever-rising tsunami

• In 2015, eight zetabytes (eight trillion gigabytes) of digital information will be created and shared

• This tsunami and machine translation has created a strategic inflection point on the whole translation industry, client- and supplier-side
  • Adapt or perish

• Translation will become a utility, ubiquitous and embedded, creating great opportunities for all
  • Technologists
  • Translators

Question: Will we ever invent something like the Tardis' translation circuit? Maybe in the 42nd century?
In the meantime, companies like Microsoft* (and Intel) bring us closer
Thank You