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Introducing the TRADOS Workflow Development

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This paper focuses on the background to the TRADOS Workflow development, and on how our new generation of products have naturally emerged during the research phase, rather than on product demonstration. The illustrations and examples in the accompanying presentation will demonstrate the problems inherent in the localisation industry and their technical resolutions.

Introduction

The term used to refer to the development is "workflow", within the context of the translation and localisation industry. This paper proposes that workflow is an element of every translation production process, and that automating the workflow is not the all-embracing solution in itself. There are multiple workflows within any translation production process, and automation of the workflows must be preceded by an articulation and definition of the translation production processes currently employed and those which are emerging.

Above all, this paper proposes that until we recognise and support those professionals involved in the translation production process who are not translating, any attempt to introduce workflow technology will ultimately contribute to the problems rather than resolving the issues.

Once we achieve the definition of the translation production process, identify the workflows and recognise that translation production requires more than the art and science of translation, then we can proceed to manage the workflows in a fashion that will give our industry scalability and visibility, reducing costs whilst retaining quality.

I'm going to introduce you to the workflow development by first giving you some background as to why we have such a development, followed by an articulation of the problems inherent in the translation and localisation industries. I'll outline some of the solutions which are currently proposed to resolve the problems and assist us to grow to service the requirements of today and the anticipated requirements of tomorrow. Finally, I will outline how TRADOS will support the anticipated explosive growth in our industry and assist it to expand into the globalisation arena with technology which is truly scalable.

The Background

I had a title for this paper and for the presentation of our new generation of technology, which was "Localisation - It's All About The Exception". This section of the paper brings us rapidly through the background of the industry and explains why exception and change management are inherent in what we do.

TRADOS Background

TRADOS has been developing and marketing translation technology for over fifteen years now. Our initial product offerings - and those which are at the core of our business still today - were terminology management and translation memory database systems. The interfaces that made TRADOS as popular as it is today were chosen because they were the industry standard tools for translation (Microsoft Word and WordPerfect). TRADOS provided an interface between them and the translation memory database.

We continued with that same theme by providing technology to extract text from the industry standard applications used for developing and building complex reference material (FrameMaker and Interleaf) and providing tools to assist with niche formats, such as QuarkXPress and PageMaker. We have developed tools to create a translation memory from previously translated material, and provided project management and database administration utilities within the translation memory system.

Translation production has never been a simple process. Any process involving multiple roles, distributed teams, complex content and formats and constant change management will present significant challenges. Management and automation of the translation production process is one which has not yet been fully addressed by any technology in an independent fashion. We have all been busy trying to reduce the total cost of translation by reducing the amount of repetitive work involved in translation and to increase the speed at which we can produce. At TRADOS we've tried to achieve this aim by getting the translator to accept the new technology as a useful tool to assist them in their creative process. We've also focussed very strongly on the introduction and acceptance of translation memory technology as being essential to the translation and localisation industry.

We are continuing to incrementally improve our translation memory system, offering it as a common technology solution in a forthcoming release. Our translation interfaces have grown to incorporate our HTML/XML/SGML and our Microsoft PowerPoint interfaces. We are about to introduce a common tag format (TRADOStag, an XML based format) for the interfaces into professional publishing packages along with utilities to make the process more effective. As pioneers of translation technology, we carry a weighty responsibility - delivering on our promise to support the professional translator with best of breed technology.

Translation Memory Technology

Being a pioneer is a most challenging role - identifying a need in a marketplace which has not yet been fully articulated and providing a technology solution which anticipates the requirements which have not yet been specified is a supreme challenge. Not least because it involves an element of quite some risk.

TRADOS tools and technology are accepted by now as the industry standard for the professional translator. Translation memory technology has delivered significant cost, quality and time to market benefits to translators and translation managers. As the global market expands, and the projections for the number of words and type of material to be translated reach vast proportions, the requirement for the translation production process to be merged with other production and business systems within all organisations is becoming imperative.

To service the needs of the "Global Marketplace" the industry must expand substantially. How will it do so and still retain a semblance of quality? How do we connect our processes with the rest of the processes used within our organisation whilst still retaining the versatility that we are required to show? Most fundamental is the problem we have of doing more in a shorter timeline at a lower cost.

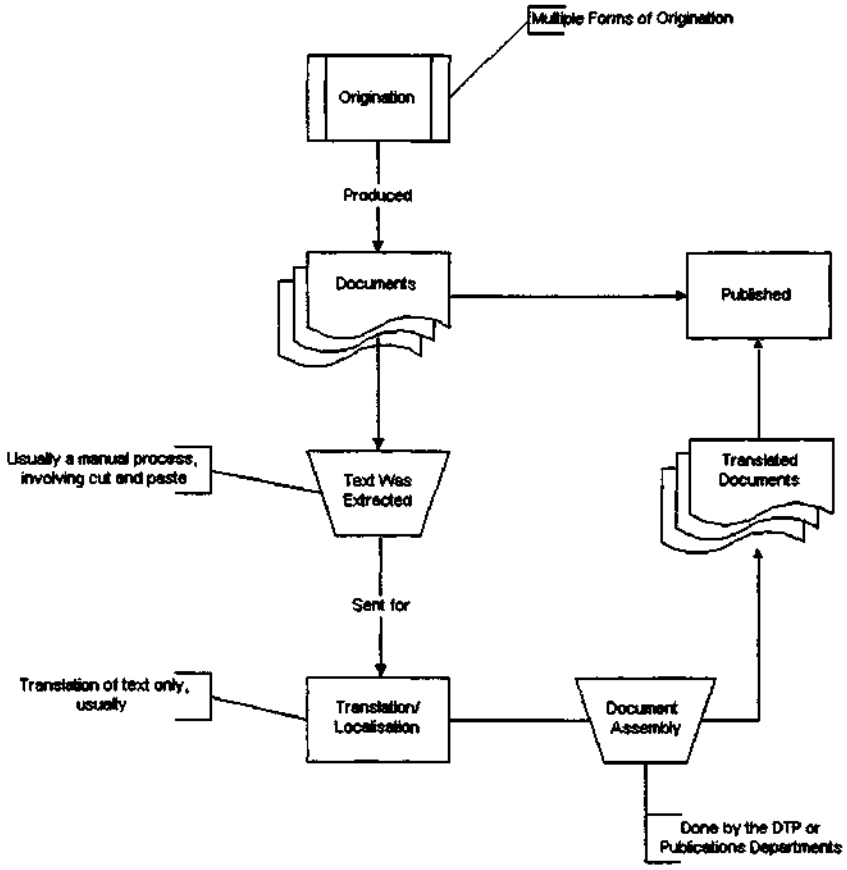
Translation memory technology has contributed to the scalability of the industry allowing us to grow and embrace new paradigms as rapidly as they have been presented to us. The TRADOS workflow development consolidates our technology and provides a common platform to support the complex process of producing translated material within a distributed environment with seemingly impossible deadlines.

Translation Production Background

Technology has moved so fast over the past 10 to 15 years it is almost difficult now to envision how translations were ever produced without the personal computer. Add the Internet into the mix of the multiple software tools now available for developing and publishing content, think about how the content to be translated has changed during the recent past from being primarily reference manuals for products with a world-wide distribution to the marketplace it is today, and gasp at the perceived diversity of process which would be necessary to deliver.

In the early days of the translation memory technology systems, a translation production process was almost simple. We had the content - it was originated by the documentation group, the legal group, the marketing group. It was often originated in a word processing application such as Microsoft Word, but if it was a technical reference manual with complex illustrations a desktop publishing product such as Interleaf was used.

The translation production process in the early days involved origination of the material from which text for translation was extracted (usually manual). The text was translated, the documents re-assembled, and then published.



Translation was a costly business, and really only worthwhile when large volumes of text were to be translated. Early translation technology pioneers recognised that within these large volumes of text much of the content was repetitive, translation memory databases were developed to address this issue.

As translation technology moved on, the cost of text extraction and subsequent document re-assembly was addressed. Converters (such as the S-Tagger) or filters within other translation memory systems automated the text extraction process, facilitating easier document re-assembly.

The configuration of the translation production team usually reflected the simplicity of this process. The translation production team was made up of the project manager, who made the decisions about scope, schedule, budget, resources and drove the project from start to completion; the translation engineer who converted the files, set up the translation memory, built the localisation kit and was responsible for technical queries, distribution and quality assurance; the linguist who translated the content, populated the translation memories, reviewed linguistic content, edited the content and delivered completed translated files and translation memories; and the publications person who assembled and finalised the documents for publication.

So *what has changed?*

The translation production process remains substantially similar - documents for translation are originated, sent for translation, translatable text is extracted, translated and the completed documents re-assembled and published. The configuration of a typical translation team today is markedly similar to yesterday's team. What makes definition and automation of the process today so much more imperative and how is it easier to do it now than it was then?

The change that has probably had the most impact on the translation production process is how material to be translated is now published and the consequent need for a tighter, more automated process. Today's material for translation is less and less the large reference manual which will be printed on paper, or even delivered on CD in PDF format (although much of this sort of material still remains and will continue to be required), which involves a long and complex translation production process.

An additional major factor is the sheer volume now presented for translation. The number of words has increased massively as a total - whilst the number of words per project has reduced.

More and more instantaneous translation is required, the publication methods and environments have extended to include PDF delivered over the web, HTML help, dynamic ASP pages and multimedia. Content is frequently generated on the fly. The world wide web has increased the pressure for simultaneous (or as near as possible) shipment of localised versions of products along with the original source language. Rather than investing in user guides which a user will read from start to finish, more and more publishers are turning to web-based support systems in the hopes that the material can be updated in a more cost-efficient manner.

The production tasks within today's translation production process have also changed accordingly. More and more of the tasks are engineering and administrative, involving complex distribution chains with rapid turnaround. The Internet has also introduced a new era where collaboration will be the key word, and availability of information about a project as well as the content of a project must be distributed in a more standardised and accessible fashion.

Re-purposing of information is still a major aspiration for most involved in the process of producing translated material. Re-purposing demands a new paradigm in how information is developed, stored and retrieved. Current technology has not yet delivered a solution which is universally adopted, but I don't imagine it's that far away.

Current Market Background

The current market for translation and localisation is sending the technology providers some very clear messages. These messages mainly centre on the requirement for a new generation of technology to reflect the changing marketplace they are adapting themselves to service.

Translation technology has focussed (as we have just outlined) up until now on providing tools to automate repetitive processes and tasks for the translator. As the

localisation/translation business has matured, and the translation production process has become more defined, the major businesses around the industry have been built on management of the translation production process, rather than the actual translation itself.

We currently see those in the marketplace for translation production facing a number of new (and not so new) issues. First amongst these is the speed of delivery of translated material. In fairly recent times localised material shipped 6 to 8 weeks after the source language material. Quality was a higher criteria for acceptance than availability. Costs were associated mainly with the per word price of translation, rather than the management of the translation, and management was often centred at the originating site. These days the line item "project management" appears on virtually every purchase order, at varying rates from 5 to 10 percent of the total project costs.

The Internet and global sales opportunities have changed the ball park quite radically. Information about availability of a product in its source language speeds its way across the world wide web in an instant and demand for the internationalised versions or models creates a significant pressure for near instantaneous delivery of the localised product.

The Instant Whip Syndrome

This "instant whip" syndrome has led to the increasing numbers of translators working simultaneously on the same project, increasing significantly the amount of management required. It has also led to the fragmentation of translation groups - when a project requires multiple translators to deliver in a shorter length of time, employing translators to be available full time becomes uneconomic, outside of organisations whose core business is translation (such as single language translation vendors) or whose flow of work is constant or highly specialised.

Another issue facing today's translation professionals is the dispersal, collection and organisation of information. This is, after all, the information age, and the expectation on us all is the provision of more information, in a more organised fashion, more quickly available than ever. Collaboration, visibility, openness are key words of the early third millennium.

Some time in the future we may all use a single format to deliver information in a standard fashion, but we currently have a myriad of choices and most have a marked preference for using different tools to deliver different messages - PDF generated from FrameMaker, MSWord, Quicksilver, QuarkXPress for user information and reference material; training material developed using AuthorWare, MacroMedia Director, Microsoft PowerPoint; on-line help as HTML or RTF; marketing literature originated in QuarkXPress, InDesign or PageMaker; web pages authored using countless "standard" applications.

Specialist applications for specialised material abound, with no standard other than meta languages such as XML emerging for export purposes.

The localisation industry is attempting to produce billions of words of translated material without a tool set to support the multiple formats, the shrinking timelines, the dispersed resource bank, the automated systems spitting out short segments of text for translation with an expectation of instantaneous turnaround. And we're expected to produce even more every day.

Defining the Localisation Industry Issues

The problems inherent in our industry are really quite simple to articulate. We have not defined the industry as either a creative or a mechanical industry. Machine translation and other technological advances are constantly snapping at our heels, distracting us from the real issues. We are rarely core business and frequently an afterthought. The industry is growing at a phenomenal rate and we're not yet mature enough to be truly scalable. This section of the paper outlines these issues.

Localisation, Creative or Mechanical?

We ask what this industry is built on - the creative impetus or the mechanical operation? Or, is it a combination of the two, resulting in a communications industry. When I talk about our industry being creative or mechanical, I'm not referring to the eternal debate over whether translation is art or science - let's not go there right now!.

At a fundamental level, the problem for our industry is that it sits in the middle. It's both a creative process and a mechanical process which is often seen as a necessary evil by those who are paying for it. It epitomises so much that we know nothing about and therefore cannot control. We need localised product, say the strategy makers, because our partners in another part of the world won't buy unless we speak their language. We need localised product so that we can expand our marketplace to become this truly global enterprise that we're supposed to be.

To get this localised product we have to rely on people we can't see in places we've never been to produce material we don't understand which will be sold by parts of our organisation we may be in competition with, to users we'll never get to know since we can't understand them who have sensitivities which are foreign to us.

And we have to pay for this?

Is it any wonder the localisation industry has no real centre? We're all so busy justifying our existence and fighting the communication battle. We understand somewhere within ourselves that the industry is about so much more than per-word cost these days, but few of us can translate that into a value proposition which makes sense to all.

We fight the communication battle on the level of the computer taking over our lives as well - although perhaps these days it's less fear of the computer and more fear of the Internet. The Internet is pushing us towards translation on demand from one perspective, but from another it is actually pushing us away from it. The Internet is a communications revolution - it is changing how we do business with each other, demanding a style of communication which is open, accessible, more casual and personal.

We have a creative process which is treated as a production process - almost manufacturing - we're expected to treat it as if it were a manufacturing process. But it isn't. Yes, we can define it, we can probably make it more efficient, we can make it more visible, but first we have to define what it is.

At a high level localisation is the production of an adaptation of the output of a creative process. The production process for that adaptation involves the management of another creative process (translation) and subsequent production of that output. It is fundamentally reactive - we can advise, cajole, stamp our feet all we like, and many have been successful in educating those creating the source - but we will still always have to adapt that which has been created by others.

Machine Translation and Other Silver Bullets

Virtually all of the world is waiting for the first machine translation system that will really work. Why? So we can communicate with all of the rest of the world without spending all of this money on translation. How difficult can it really be? hmmm... Myself, I look forward immensely to the first truly effective machine translation system because it's only when it becomes available that those clamouring for it will understand that the proposition is one which can

assist us to communicate with all of the rest of the world, but it will never (OK, let's never say never) replace communication - the emotions, nuances, expressions. Should such a machine translation system become available, we will see the shifting of communication methods from written to oral or visual to replace the lack of personality inherent in a mechanical translation, however grammatically and syntactically correct it is.

I write little these days which is formally localised, my main localisation activity is presentations. I use the same set of slides, the same accent, the same language, the same visual aids, but the delivery of each presentation is localised to the country, region and make-up of the attendees. I slow my speech or speed it up. I use humour in some situations, never in others. I choose the words I use to ensure that my audience understands me, and I tailor my expressions and emotions according to how it feels. It's always me, it's the same presentation, but I deliver it in a localised fashion. A gentleman in the US once asked me why I hadn't localised the text in my presentation from International English to US English. He felt it got in the way for him to be puzzling over why "localise" was spelt like that rather than the *correct way,* "localize". Like a typing error to a proof reader reading a novel, it didn't stop him from understanding the word, but it annoyed him. My reply had to be that I hadn't localised my accent either, but didn't mind when they laughed at my pronunciation of what they call "filmmmm" as "fillum".

This example is almost a trivialisation of what localisation is about, but for me it's one of the fundamental issues. As an essentially undefined process, localisation is seen/appears to be some kind of black magic. What exactly happens during a translation production process? For the more familiar, those who have been localising for decades, they have the picture. But what they can't understand is why it still costs as much today as it did 20 years ago? Don't we have more tools? Surely there is machine translation by now that will just take the stuff and spit it out in another language? Sure it's a bit quicker today, but its still a significant cost. Worse than that, we still don't have real metrics and worse again, we haven't really managed to get it into the source. We've heard of controlled language projects to try and integrate and we use translation memory technology, but can we actually see what happens in a project, as an industry?

Our Core Businesses

Another fundamental cornerstone of our industry is that translation is not core business for many of us. Even for TRADOS, the language architects, we are primarily software developers. Our core business is development of software and the incurring of revenue from sales of that software. Translation for us is an aid to selling the software, not an aid to developing it. It is also a statement of our marketing message. For the Multilingual Governing bodies (such as the EU, the Canadian, Irish or Welsh Governments) it's not core business. Their core business is making laws and directives. Translating the laws and directives into a form whereby they can be understood is secondary to the arrival at the decisions. Localisation is, of course, taken into account at a much earlier stage in the process, by the representatives of the different locales, in the making of the decisions.

It is difficult, so, for us to justify expenditure on technology, infrastructure and resources which are a supporting proposition. Where does the localisation budget live in a company? Where does the workflow for a translation production project start?

Scalability

We're being told by Forrester Reports (www.forrester.com) and by industry gurus that this Globalisation business is going to grow to vast proportions very soon. I wonder how we're going to cope with it. We're not really scalable enough for that, but the pressure is being applied on us to become more scalable. We look at the issues we're already coping with today and wonder how can we do it faster to be able to support those needs that are about to descend?

Where does quality end up in this scenario? How do we assure that what we are producing is still of the high quality we all signed on for? We need to build support systems for ourselves which reach across the divides of the merger mania and competitive advantage. Otherwise we will not be able to support the growth which is coming on stream.

We are seeing completely new propositions such as Application Service Providers and e-Hubs approaching us over the Internet. We see how the Internet has so far contributed to the increase in the pressure for more, faster, cheaper and the ripple of nervousness tingles through the industry. We fear that we are not set up to cope with this. We fear that not only are we not set up to cope with this, we know that we must continue to support our traditional business as well - we see the technology stocks tumble and pull out our contact management systems to look out the traditional customer who has built his business on more than e-hype. But we also know that there is yet another new format coming down the line and we must be able to support it.

The paradigm has to change and we must be part of changing the paradigm. We need to accept that we've got a creative process which has mechanical demands placed upon it. We have a process that's by its nature going to be spread across a distributed team and one which is utterly dependent on another very creative process - the development of product and product usage, sales, marketing and support material. We have pressure to deliver faster, to reduce costs, to ensure high quality and to expand to embrace twice as much next year as this. We must seamlessly integrate new technologies, media and communication methods into our business and demand that the technology providers ride far in front of us, scouting them out.

State-of-the-Art Solutions to an Age Old Problem

"A few thousand years ago there was a marketplace. Never mind where. Traders returned from far seas with spices, silks, and precious, magical stones. Caravans arrived across burning deserts bringing dates and figs, snakes, parrots, monkeys, strange music, stranger tales. The marketplace was the heart of the city, the kernel, the hub, the omphalos. Like past and future, it stood at the crossroads. People woke early and went there for coffee and vegetables, eggs and wine, for pots and carpets, rings and necklaces, for toys and sweets, for love, for rope, for soap, for wagons and carts, for bleating goats and evil-tempered camels. They went there to look and listen and to marvel, to buy and be amused. But mostly they went to meet each other. And to talk.

In the market, language grew. Became bolder, more sophisticated. Leaped and sparked from mind to mind. Incited by curiosity and rapt attention, it took astounding risks that none had ever dared to contemplate, built whole civilizations from the ground up.

Markets are conversations. Trade routes pave the storylines. Across the millennia in between, the human voice is the music we have always listened for, and still best understand."

Extract from The Cluetrain Manifesto, Copyright © 1999 Levins, Locke, Searls & Weinberger. See http://www.cluetrain.org.

The Cluetrain Manifesto is a "movement" which examines the phenomenon that is the Internet and the substantial changes that we must all implement in our businesses to be successful in the global village.

If the authors are correct in their analysis and should they actually manage to convince the whole of the world of their thesis, our industry will be required to gear up quite significantly, and the predictions for the "globalisation" business will, in fact, be realised and perhaps exceeded. Our industry has grown at an extraordinary pace so far, and right through its history we have been offered the solution to end all solutions.

We have had ISO, machine translation, controlled language, SGML, translation memory, merger mania and now Workflow, the Internet and XML. The smartest amongst us have taken the best of these propositions and integrated what they needed to achieve their ends. The ISO accreditation process can help any organisation to assess its business process strengths and weaknesses; Machine Translation when used in conjunction with a translation memory system and smart engineers can cut hundreds of hours out of a schedule whilst retaining quality in the right environment; controlled language has a problem since it's also trying to impose a mechanical solution to a creative problem, but one which may yet surprise us all; SGML systems abound, but similar to controlled language and document management systems, they're costly and business changes so fast it's hard to justify the costs; workflow is

not defined - to some it's a streamlining of their business processes, to others it's web-based distribution, to others again it's automation of their production processes combined with streamlining of their business processes and a web-based distribution and communication facility.

Traditional Workflow

We keep talking about "workflow" without ever actually defining what it is. The term is used to represent many aspects of our businesses. However, it is used in an indiscriminate fashion leading to confusion as to how a workflow can be improved. When I started working on this development, I had three strong feelings about "workflow":

"It's for manufacturing environments"

Workflow is defined by the WfMC (workflow Management Coalition), the standards body for workflow management systems, as "Workflow is the automation of a business process, in whole or in part, during which documents, information, or tasks are passed from one participant to another for action, according to a set of procedural rules.". They go on to state that "A workflow management system defines, creates and manages the execution of workflows, through the use of software, running on one or more workflow engines, which is able to interpret the process definition, interact with workflow participants, and, where required, invoke the use of information technology (IT) tools and applications."

The traditional, commercially available, workflow products that most of us would be familiar with are the likes of the SAP system. Many of us would not actually be familiar enough with the SAP system to know much more about it than there are always advertisements in the papers for SAP consultants who seem to earn a lot of money! Or that it really only applies in a manufacturing environment. My impression (and it may of course just be that I'm insular) is that workflow is kind of synonymous with manufacturing or other "straight through" or mechanical processes - that is processes that have a clear beginning, middle and end.

When I hear workflow, I feel on a gut level that we're talking about a methodology that can't have an application within a creative environment. Similar to ISO accreditation, workflow as a proposition feels like a square peg in a round hole.

It's Consultants, business process re-engineering, costly

When I hear workflow, another set of bells ring in my head. I hear consultants, business process re-engineering, investment. Somewhere inside my head I react against the thought that we need to spend that much money assessing, identifying and documenting a process which is so subject to change. For me, successful management of a translation project is usually about good change management. Anticipating not the actual unexpected but the fact that the unexpected inevitably appears at some point during the project. Anticipating it means building a firm foundation for the project to be able to facilitate the new parameters at any point. In the business of producing products (as opposed to services) which are localised, the sudden discovery or epiphany that changes the direction of the product usually happens just as we're about to start our part of the process.

It's Web Based, EJB, B2B

The third and final major area that my head NOW associates with workflow is the term "web based". The term web-based workflow is extremely popular across all sections of industry, not just our industry. It's jazzed up with words like EJB (Enterprise Java Bean), B2B (Business to Business) and other new acronyms for existing concepts such as CRM (Customer Relationship Management) which I've no doubt we'll hear referred to as CIF before too long (Customer Interaction Facilitation).

I like the Internet, I use it all the time and admit to even being an e-mail junkie. I think that the Enterprise Java Bean is really cool technology. I'm pleased to see the re-definition of business practises which for a long time have stagnated in a murky area between the industrial and technology revolutions. But I want to know how does a web based workflow

apply to the complex issue of translation production. I want to know what is really meant by the term workflow and then what is meant by web-based.

Web-Based Workflow Systems

Pundits, analysts, gurus and localisation warriors alike have all started to suggest our only hope of survival and servicing this upcoming influx is to adapt a web-based workflow paradigm. The term "web-based workflow" is by now so pervasive as to seem a fundamental cornerstone of the translation/localisation process.

Probably where I have the issue with this proposition is the term "based". A translation workflow or production management process is rarely "based" on the Internet. The Internet is a vital tool in some parts of the process, but most of my process is based on my desktop. I communicate with my customer (internal or external) via multiple media - e-mail, telephone, fax, personal contact. I may find my customer via the Internet or my customer may find me via the Internet, but my most valuable business is repeat business and my most valuable sales tool is word of mouth. I may find my resources or my resources may find me via the Internet, but I don't use the Internet to test out their skills and assess their quality rating. I may use it to communicate with my resources and to distribute to and collect files and data from them, but most of my material is not created on the Internet I create my material on my desktop and I may publish much of it on the Internet. I may find the software I need to create the material on the Internet, and in the near future I may rent it via the Internet. But I'm not yet on-line whilst I create the material using that software, and I'm not sure that I need ever be. I would accept an Internet centric workflow system that addressed those needs that I have of the Internet. Naturally, if my product or offering is developed as web-based I'll need a web based workflow system.

What I'd like to do with a web-centric workflow system is to be able to continue doing business as I currently do it, only be able to remove some of the headaches associated with owning, using and maintaining software and with working with a distributed team.
For me, the Internet is just the best for:

- Finding information (about the process, the resources, the methodology)
- Communication (status, contracting, resources)
- Delivery (sending and receiving files)

We use e-rooms, e-mail, bulletin boards, ftp, newsgroups - but we use them in conjunction with our desktop applications.

There is an emerging trend, however, which offers up a completely different marketplace for us all, and one which is truly Internet based and which will require a web-based workflow management system - that's e-support and database driven web product. We all need to be ready for that.

When I talk web-based workflow, therefore, I'm talking primarily about how we can make use of the Internet for the services we have grown to depend on it for within our multi-discipline IT set ups and workflows and I'm also bearing in mind the future - when what is now almost rocket science will be accepted practise and methodology. In the web-based workflow paradigm, our workflow is: Got stuff - need it translated somewhere else in a different time-zone - need to send it there - they translate it - they tell me how they're getting on - they send back the translated stuff - I publish it.

Translation Workflow

In our context, workflow is all of the above, some of the above and more. Having had the privilege of the time to research just what is meant by workflow, I've come to some conclusions.

Workflow is how a process is automated. To design a workflow you must know what the input is, what tasks must be performed on it, in what order they must be performed, by whom, what the output is and when it is expected.

Simple really, eh? In the context of a translation or localisation project the workflow is:

I've got a source file, I need it translated, and I need to publish it afterwards.

On a more granular level, I perhaps have:

I've got a source file, I need it translated after it's created, translation must be done by a native speaker, who will produce localised files within a very short time frame for me to publish it.

Our input is the source material and perhaps previously translated material. The tasks that must be performed on it are translation (as the primary task) with some other ancillary or supporting tasks. In our context, we're really talking about a hierarchy of workflows, in much the same way that the WfMC describe a workflow management system.

The TRADOS Workflow Development

This brings us then to the TRADOS Workflow development - just what is it we have been able to make out of all that.

First, some statements:

- there is no single workflow for translation production
- any translation workflow is in fact a series of workflows
- traditional workflow is in many ways an anathema to our industry
- within the translation production process, human input and creativity is required
- there are tasks which can be automated and we will automate them
- there are tasks which we don't know about which are carried out, we will provide the support to automate them
- a true translation workflow management system will need to be configured for the specific workflows involved
- the translation workflow management system (that which automates the progress of material through stages) must interact with a translation production management system (that which automates the tasks during each of the stages).

Whoa! strong stuff - so what on earth are you reading this for? Just to be told that workflow doesn't apply to your environment? That doesn't work - the inherent eternal battle in the localisation business is to marry the creative with the mechanical. Localisation sits right in between our product (content) developers, those mad creative people who get ideas and make them into something tangible and our sales people who are making money out of the produced ideas.

What we propose with our development is actually fairly simple.

- We need definition of the translation production process on a generic level.
- We need identification of the common tasks performed within any translation production process.
- We need recognition that the roles within the translation production process have evolved to include technical, project and publications management along with linguistic management and translation.
- We need to identify the common workflows within the translation production process.
- We need to articulate our requirements for technology to support the automation of tasks, the progress of projects, the management of the process and the operation of the workflows.

We need technology to assist us achieve our aims which will be configurable for our environment and which will solve our problems.

TRADOS Workspace - Phase One

The first phase in introduction of the TRADOS Workspace is the definition of the translation production management process. The output from this definition is a set of utilities which ties the TRADOS technology together, automating production tasks.

This first phase introduces an interface and methodology for those working on translation production using TRADOS technology who are not translating. It is essential that this paradigm is consolidated and accepted before we attempt to streamline the workflows of a translation production process.

The presentation accompanying this paper will illustrate how such a system can work, and take us through a couple of common scenarios.

TRADOS Workspace - Phase Two

Phase two is the Client/Server based workflow management system, which automates the workflow for translation production as defined in phase one. The workflow management system may have a specialised market early on, and may not be suitable for the traditional localisation projects. We look to you to tell us if it will.

Core to the workflow management system is the workflow engine. The user interfaces with the workflow engine at project start to define the elements of project, the tasks which must be performed, the order in which they must be performed, the conditions under which completion is determined and the resources which will perform the tasks. The workflow engine collects this set of instructions and executes them. Other users will then interface with the system to signal the completion of a stage, and to add updated material or additional data to it.

Around the workflow engine, so, we must build a set of interfaces, and provide as many automated processes as possible (phase one). Some processes used within a translation production environment are easily automated - mainly the distribution and administrative ones, others are more complex.

Currently, the vast majority of translation production is outsourced to either multi-language vendors (buying services from single language vendors and freelance translators and in-house resources), single language vendors (buying services from freelance translators and with in-house translators and resources) or freelance translators.

A standard definition of translation production is also made difficult due to the varied and diverse nature (formats) of the material being translated, and the constantly changing requirements of the marketplace.

The appendix to this paper outlines the generic translation production process structures in terms of phases, team configurations, roles and generic task sets. The presentation will illustrate the processes, both current and how they can be improved using the TRADOS Workspace.

Conclusion

This session is not intended to act as a product demonstration, there is plenty of opportunity for that in the coming months. Instead, I hope to have given you an insight into how we see our industry and the issues we plan to resolve by providing the technology you need.

TRADOS is committed to pioneering the best of new technology to support the translation and localisation professional. The communications revolution that is the Internet is having, and will continue to have, a profound effect on how we all do business. Our business processes must become more streamlined, automated and identifiable in order that we can take advantage of the best of the new paradigms in technical and commercial propositions.

The TRADOS Workspace will provide the platform which will enable you choose which parts of your process can be best executed on the desktop, over the Internet or within a client/server environment.

Appendix - Production Process Structures Outline

The translation production processes employed by TRADOS customers (present and future) are myriad in the configuration of the translation teams, the list and sequence of tasks performed, the content and formats of the material to be translated and the distribution and delivery methods employed during the process.

However, there are a number of key similarities between all of these, and a number of problems common across the majority of the customer base. The Workspace research has identified these and will deliver a solution which can increase efficiency, reduce costs, raise visibility and ensure that current and future technology employed in the origination process can be seamlessly integrated into the translation/localisation process.

The Translation Production Phases

Common across all translation production processes are the four major phases of a project. These phases are consecutive, but their start and end dates are not necessarily quantifiable prior to project start. Within a master production plan, there may be multiple production projects, each of these break into the same four phases. The phases are: Project Definition, Pre-Production, Production and Post Production.

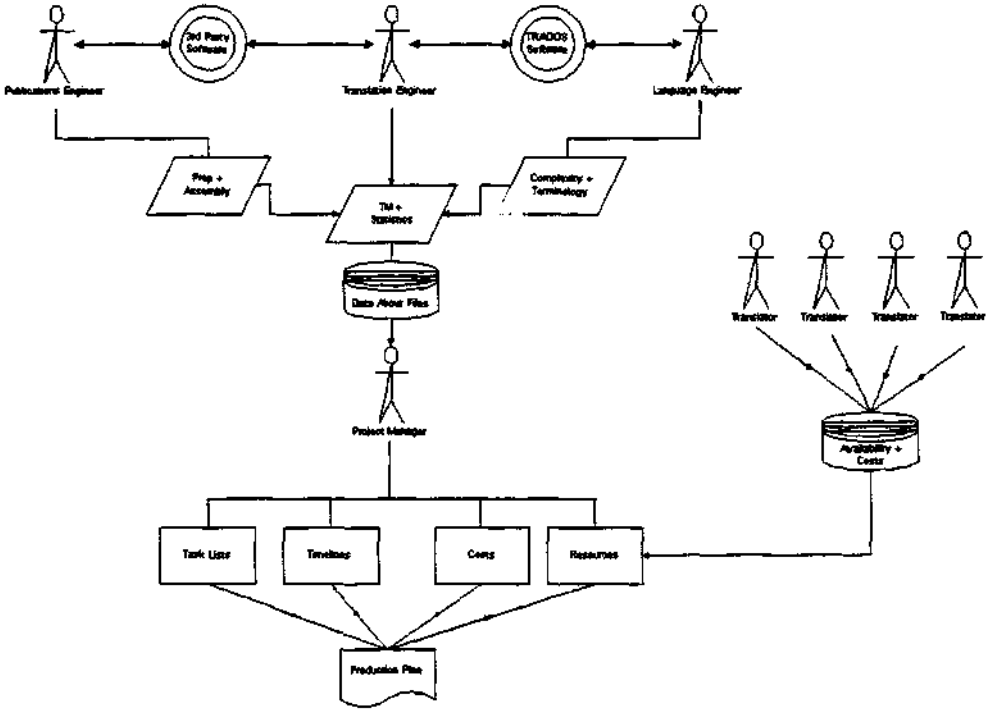
Phase 1 - Project Definition

The project definition phase may take place long before material is ready for translation, or it may happen immediately prior to the production phase. When this phase happens is irrelevant for description purposes. Projects with a simple scope which requires merely automation of a process to be set up once with little human interaction requires definition as much as a project with a complex scope. An example of such would be a pre-defined process where content from a content management system is automatically distributed to a pre-defined list of translators over a LAN, translated and checked back in.

During the project definition phases, the following major tasks and task groups are defined. Not all of these tasks are carried out within all projects, and no role is yet assigned:

- Decision to start project
- Scope of project
- Evaluation (Analysis) of Project
- Projected Costs
- Estimated Timeline
- Overview Schedule
- Resource Allocation
- Specification of Deliverables
- Expectations Set
- Project Methodology Recommendations
- Dependencies Identified
- Quotations/Commitments Sought

Illustration of the project definition phase

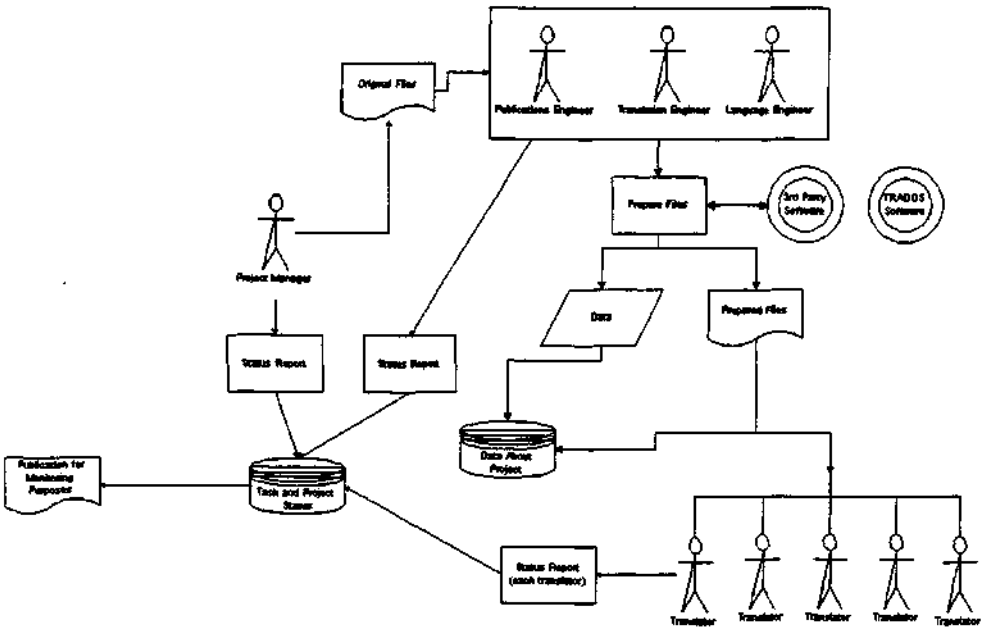


Phase 2 - Pre-Production

During the pre-production phase, the files for the project are usually available and are the basis for the continuance of the project. The resources have been identified and costs have been quantified and agreed. Pre-production may involve a significant amount of preparation work, such as linking graphics in a FrameMaker file, or marking up non-translatable text in a series of HTML files. The tasks typically carried out during the pre-production phase include:

- Collection of material (TM, previous translation, graphic files)
- Quantification of files (what files are they, directory structure)
- Analysis of files (administrative, as in word counting as well as linguistic and technical)
- Preparation (graphics may need to be linked, correct styles applied to text, marking text as do not translate)
- Creation of Localisation Kit (breaking down project into organised chunks, writing instructions)
- Documentation of all above
- Distribution
- Status Reporting

Illustration of the pre-production phase



Phase 3 - Production

Production is defined as the production of new material, rather than the adaptation of source material. For example, during the pre-production phase a worker may prepare a set of RTF files ensuring that all styles are correctly applied. This does not quantify production, rather preparation, since it is being done to ensure that when new material is produced in multiple languages it will be produced correctly. However, the application of updated styles to a set of translated RTF files during a DTP stage of production, would be defined as a production task.The actual production process within a translation project involves a very quantifiable set
of tasks. Many of them will also have taken place in the pre-production phase, for example, distribution - in this phase the files are distributed to a different set of resources. The tasks include, but are not limited to, the following key areas:

- Distribution
- Status Reporting
- Translation
- Editing
- Review
- Updating
- DTP
- PDF generation
- Quality Assurance
- Trouble shooting

Phase 4 - Post-Production

Once production is complete, an additional set of tasks are typically performed on the translated product, and to complete the translation production process. These include:

- Quality Assurance
- Billing and Accounting
- Archiving

The Configuration of the Translation Production Teams

There are multiple configurations of teams working on any translation production process, and it is not possible to quantify nor recommend how a team is best configured via a software solution. However, it is useful for our purposes to itemise the common configurations. The major common configurations currently employed include:

- Translation projects where there is one source, internal translators, multiple languages
- Translation projects where there is one source, external translators, multiple languages
- Translation projects where there are multiple sources, internal translators, multiple languages
- Translation projects where there are multiple sources, external translators, multiple languages
- Translation agencies (single language vendors)
- Localisation service providers (multiple language vendors)
- Lone translator who provides all services
- Lone translator who provides linguistic services only

Note: The term "source" refers to the original material and in what configuration it is produced. A single source project would be, for example, where the documentation team within a software publisher develops all the material for translation, and they produce just one type of material, for example, user guides in FrameMaker format.

The Roles within a Translation Production Process

Within a translation production process, there are a number of roles which are common across all team configurations. The roles follow a traditional specification:

- the decision maker (focus is time and costs and planning)
- the technical specialist (focuses on the technical aspects of implementing the plan and the technical implications for costs, timeliness and planning)
- the administrator (focus is on facilitating the implementation of the plan)
- the workers (execute the plan and produce the material)
- the quality assurance (assure the quality of the produced material)

Within the translation production process, the decision maker is normally referred to as the project manager. However, in many environments, this role may have a different name, or parts of the role may be shared amongst, for example, the vendor manager, the language manager, the production manager.

The technical specialist may be a translation engineer, a CAT specialist or a DTP specialist. An editor within some environments may also be the technical specialist, specialising on assessing and preparing the linguistic content in its source language.

Workers within the translation production environment are the translators, the DTP and graphics personnel, the editors, reviewers and often the CAT specialists. Quality assurance is usually built into the task group, so that linguistic quality assurance is separate to validation of files for re-assembly, which may take place within the DTP department.

Bearing this in mind, we define the roles within the translation production process in as standard a fashion as possible. The roles and their definitions follow.

The Administrator

The administrator is responsible for the administrative work in the project, such as:

- File delivery
- File collection
- Purchase order raising
- Status report collation
- Completion of delivery dockets
- Notification

Flag raising when issues arise

An administrator will not normally have managerial, linguistic or technical responsibilities, and is probably the only role within the translation production process which will be replaced by the Workspace. Virtually all roles within the translation production process involve some administration, making this function key within the Workspace development.

Translation Engineer (CAT Specialist)

The Translation Engineer is frequently referred to as a CAT (Computer Aided Translation Specialist). This role is one whose task list expands and contracts most dependent on the complexity of the project and the configurations of the team. The Translation engineer is responsible for technical aspects of projects where CAT is used, including:

- Project and File assessment
- Preparation of translation memories
- Preparation of files to be used with translation memory
- Batch pre-translation and marking of non-translatables
- Maintenance, merging, updating and archiving of TM
- Troubleshooting and Problem Solving, often training
- Quality Assurance of translation memories (technical)
- Often the main technical resource, preparing and distributing localisation kits

Publications Engineer

Given that a large percentage of what will be published in the future will not be published via a desktop application, but rather a web interface - this role refers to those responsible for the layout and formatting of material, including book building where relevant or web page validation and re-building.

- File assessment, including translatability
- Preparation of files to be translated
- Conversion of files
- Generation of ToC and Index during translation
- DTP Tidy-up and book building
- Preparation of DTP and Graphic elements of localisation kit

Editor

Many of our team configurations, particularly those working in distributed environments, appoint editors to a language team, to assure that style and content of a set of material is consistent and to perform standard editing tasks on the material. An editor is generally a senior linguist responsible for:

- Assessment of linguistic issues in files - language, complexity, subject matter, alignment
- Preparation of guidelines and assistance to translators
- Sometimes conversion of files or other CAT tasks
- Sometimes generation of ToC and Index during translation
- Text editing for language, consistency and completeness
- Often heads up team of translators, has resource allocation responsibilities and other project management tasks

Project Manager

Within some team configurations, a project manager carries out the standard project management tasks, but within others, the project manager is also the vendor manager and production manager. Most roles require a degree of project management, and all require interaction with the project management function of the project they are working on. The project management function is responsible for:

- Scoping of project
- Resource Allocation
- Scheduling
- Budgeting
- Status Reporting
- Decision making
- Budgeting
- Quotation Request
- Vendor Management
- Accounting
- Billing
- Goods inwards and vendor assessment

Quality Assurance

A translation production process will have many quality assurance points. The main headings for these are listed below. It is very rare to have dedicated Quality Assurance personnel for each of these areas, it is more usual to have quality assurance built into the job description or task list of one of the other roles:

- Linguistic
- Publications
- Engineering
- CAT (Technical)

Reviewer

Reviewers are included in the list of roles within the translation production process, and treated as Workers, since it frequently happens that a review stage is the one which triggers the most change in a project. A local office cannot approve the style of the translation for example, incurring a hunt for a new vendor and subsequent re-working of all steps within the process. Or a reviewer raises serious issues about the content of the material, leading to *a* re-assessment of the entire project. Inefficient, I hear you say, how can this happen? Like all else in localisation (and indeed software development) it shouldn't but it does! A Reviewer is defined as:

- External to production team
- Subject matter expert for originator
- Responsible for Linguistic review

Terminologist

The role of the terminologist is one which does not appear in the vast majority of team configurations. However, it appears in enough team configurations and is an essential role within those configurations, so is defined as a separate role, rather than a set of tasks, to better describe a workflow or process involving a dedicated terminologist. The role is often absorbed into other roles, the terminologist being responsible for:

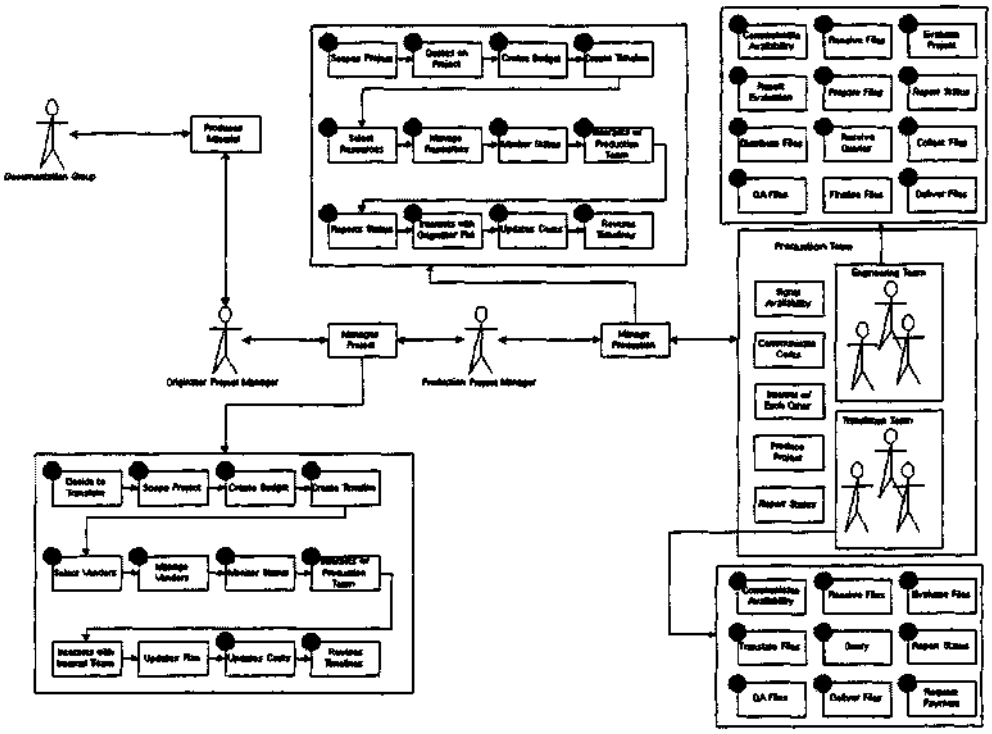
- Developing terminology
- Extraction/Collation of terminology
- Preparation and compilation of term base
- Creation and maintenance of on-line glossary
- Updating and merging of term databases
- Troubleshooting and problem solving
- Archiving and referencing term databases

Translator

Yes, we got this far through the role definition without mentioning the translator but the roles are defined in alphabetical order in this document, not in order of importance. However, this is an indication also of the change to the focus of what constitutes the production process within a translation project. In many ways, it also reflects the manner in which translation technology has focussed (and delivered) on the provision of tools to assist the automation of the repetitive tasks involved in translating text. The translator is responsible for:

- Translation of prepared text
- Interactive population of translation memory
- Updating of on-line glossary
- Tag verification
- Self-editing and review
- Delivery and Collection of files
- Status Reporting

The illustration below gives a graphical example of a generic translation production process:



For more information about TRADOS Workspace and how the TRADOS solution will apply in your environment, please contact your local TRADOS office. See http://www.trados.com.

If you would like to be involved in the process definition undertaking, please contact Sarah Carroll, Product Manager, at TRADOS Ireland Ltd. mail to: sarah@trados.ie.