

Specifying Global IT Systems

You are replacing several old IT systems and considering one sophisticated global one. Martin Tate highlights requirements you must consider to ensure one system can run world-wide.

In some areas of IT, global solutions have become the norm for large systems – for instance, most corporate financial packages are multi-currency and multi-lingual.

However, many IT areas are new to international processing. It is dangerous to *assume* a system can support global operations.

The most important part of a global selection or construction is specifying requirements. Loose ‘big picture’ statements can be counter-productive. Vendors will define your broad terms so they can tick the box – nobody is going to respond ‘no’ to “is your system user-friendly?”. You must document requirements as statements of need in *measurable* terms, and state *specifically* what the system needs to deliver.

Impact of diversity

First, there are many cultural differences to recognise when executing the project itself – for instance, reconciling project meeting protocols, to ensure the team works effectively.

Second, reflecting culture and history within the global organisation, there will always be *significant* variations in the operating procedures – for instance, tackling the previously hidden inconsistencies in job, customer or ledger codes, part numbers, service definitions and terminology.

These cultural and work pattern differences are outside the scope of this article, but will significantly affect your project¹.

Focus of this article

The rest of this article addresses examples of the ‘incremental’ requirements to consider when one common system supports a worldwide operation.

Calendars & dates

You may need to support non-Gregorian calendars, such as the unofficial Chinese lunar calendar, the local Japanese calendar and the Hijri calendar used in some Arabic countries.

If one machine is supporting multiple divisions, there should be a user-tailored calendar per division or country. For instance to mark local public holidays. There may even be several calendars with a setting per user for which calendar to use.

Different nations expect to see dates and times in different format – 08/18/03 for US, 18/08/03 for UK and 2003-08-18 for Sweden.

Many Americans regard Sunday as the first day of week, while most Europeans use Monday.

Scandinavian staff often expect to express dates in terms of week numbers, so the system may convert ‘current week 52’ to ‘week of 22 December 2003’.

Some cultures understand midnight and noon differently, possibly affecting cut-offs during follow-the-sun handover.

Some of these settings are controlled by Windows. Make sure the system obeys the *Regional* settings. Alternatively, in ‘green screen’ systems, make sure the system itself embeds such multinational processing.

Time zones & stamping

A restriction of one time zone per server once forced a firm to set up two servers for UK and Continental Europe. The extra cost for servers and first-year communications was £120,000.

Automatic date stamps on transactions may determine tax points on financial systems, or may log call performance for service desk systems. These stamps might be needed from a *central* time (such as the server) or might need to reflect the *local* time for the user.

This requirement has particular relevance to systems with access over the Web. As the Web becomes more regulated, the laws applied are increasingly those at the point of consumption – so capturing the *user* values not the central values becomes more important.

High-level statements mean systems may fit specification, yet be unfit for purpose.

Ensure the system recognises time zones at the *user* not system, database or company level. Typically this should be expressed as number of minutes (or decimals of an hour – to allow for the time zones on the half hour not exact hour) to add or subtract from a base time such as GMT, Universal Time or the local time of the server.

The system must also tackle the ‘daylight saving time’ needs for each user.

The most demanding requirement would be a user-specific setting to control whether time-stamping was based on the user’s machine or the server system. In 2003, this exceeds the needs of most organisations we know (and the capabilities of most systems) but we expect it to become necessary within 5 years.

Multi-lingual

One system supporting different languages can have varying degrees of sophistication.

- The installer chooses from a list for a single language to be active from then on.
- If one installation supports many databases, each might have a different language.
- Companies (or divisions) within a database might have their own language.
- A preferred language setting, when each user logs on.

Note in some countries, like Wales and Belgium, systems may need screens and reports to show *dual* languages.

The system must display legal notices that accommodate country-specific terms and laws.

Multi-currency

The Euro can be handled as a foreign currency (outside the Euro zone) or with triangulation (inside it). A system operating in both zones may need both.

Currencies involve number formats, such as full stop for decimal separator in France, but comma in Germany. Positive and negative formats vary. They also involve a symbol with positioning, such as leading or trailing ¥ sign.

For simple text screens, you may need to use the *ISO currency tags* – letter symbols such as EUR, USD or CNY.

More sophisticated management reports may need budget and actual exchange rates, with gains and losses from currency fluctuations.

Telephone numbers

Ideally, users should store telephone numbers in a ‘location independent’ form, such as the ITU notation – International Telecoms Union. This calls for ‘+cc (ac) ln’ where ‘cc’ is a country code, ‘ac’ is an area (or city) code and ‘ln’ is the local subscriber number within that city.

Telephony integration would then translate this number into the series of digits, padding zeroes and dialling instructions needed to make the call at the *current location*. Roving users need several location profiles.

Measurements

History and language mean measurement systems differ. Americans still overwhelmingly favour miles over kilometres. Abbreviations vary – Kg is not recognised in Russia.

Icons & visual conventions

Insist upon ‘icon substitution’ to avoid built-in icons that look like offensive symbols in the customer regions.

In Turkey, the percent symbol is written before the number, as in %37. Arabic countries write the percent sign logically after the number, but since writing progresses from right to left, it is displayed on the left.

Some peoples may see an X as crossing out what is not desired rather than showing a selection.

National legislation for financial accounting

Local financial laws will shape formats and coding.

- For instance, French consumer goods legislation insists that all discounts be explicitly shown. One firm had to print delivery notes and invoices with base price and *nine* separate discounts.
- To support government statistics in Belgium, laws dictate the account codes to use for ledgers like *Salaries*.

Identifying global differences, and planning how to recognise them, will probably be the biggest part of the project.

Global security

Remember using ‘follow the sun’ IT will mean more time when system administrators cannot supervise users.

You may need extra security, at system, national, role or user levels. Such as limits on the times (or dates – see *Calendars*) when people can log in.

Controlled flexibility in activating facilities

The hierarchy of sophistication for a requirement is:

- nobody wants the feature;
- everybody wants the feature;
- some people want it, but others do not.

In the third case, the system must not impose processing rules on everyone. The requirement then becomes for the processing to exist, with a setting to turn off the feature. This ‘switch’ may be at database, company, product, service, role or user level.

Global implementation may require a system with a *template approach* which locks down, say, 85% of agreed common processing and formats, while allowing local control over 15%.

Templates should permit customisation based on authentic differences, without disabling, say, global reporting or consolidation.

Extra system administration will be needed to set up these choices. In turn, extra security controls will be needed to protect the set-up.

Outsourcing & offshore

Global 24x7 systems often trigger organisations to consider outsourcing, such as using an applications service provider (*ASP*) or offshore data centres.

As well as the additional *system* requirements, there are many additional points you need to build into evaluating the *supplier*. Examples include:

- whether staff are vetted for criminal records;
- whether staff have security industry certification;
- the ASP’s disaster recovery plan, including documented plans if data is lost;
- whether there are documented procedures for detecting intruders.

There are too many factors to detail here, but the psychology is not that you are contracting *out* part of your IT. Rather, you are contracting *in* a service provider to a crucial area. The evaluation should be similar to due diligence before an acquisition.

Summary & resources

A separate article² introduces our successful, proven and rigorous process for evaluating and selecting ICT systems and suppliers.

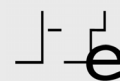
Global systems are increasingly important to large organisations. However, a badly specified system will wipe out the expected economies of scale. Be both exhaustive and precise about what is needed.

A single system will not automatically mean a consistent global implementation – but disparate systems will almost certainly prohibit one.

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¹ For systematic cross-cultural analyses see Fons Trompenaars & Charles Hampden-Turner’s *Riding the Waves of Culture: Understanding Cultural Diversity In Business* Brealey (1997) ISBN: 1857881761

² Article first published in 1999 by Public Sector IT Insight – *How To Select Your New E-Commerce System*. Now available as themed white papers such as *How To Select Your New Computer System (...ERP System, E-Learning System, Service Desk System)*.



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IT Evaluation advise blue-chip boards such as Castrol, DaimlerChrysler, LEGO & Turtle Wax. They specialise in improving IT management processes, especially service management and ICT procurement. Martin Tate is one of the UK’s authorities on large system selections, with 13 years’ personal experience of 36 selection projects, 500 user interviews, 700 systems appraised and combined budgets exceeding £8.5m. Contact him with queries on this article, for seminar details or for an initial meeting about selecting IT consultants, suppliers & systems.