Storkey & Co

MANAGEMENT CONSULTANTS

Treasury Systems Available to New Zealand Corporate Treasuries

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The Treasury Note

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INTRODUCTION

Organisations that operate in the financial markets have a wide range of systems available to meet the needs of their treasury operations.

Technology is moving at such a pace that it is difficult to keep up with the development of treasury systems and hard to make decisions on which are best suited to support the business environment.

System requirements are driven by a number of factors, including the:

- requirements imposed by regulators and by corporate governance;

- increasing need for active and more sophisticated risk management within the treasury operation;

- increasing sophistication and complexity that is possible with new technology, particularly recent developments in web-enabled functionality;

- need to move from legacy systems that are expensive and risky to maintain.

It is important for corporate treasuries to choose systems that will provide a technology platform with the flexibility to meet both current and future treasury operation requirements.
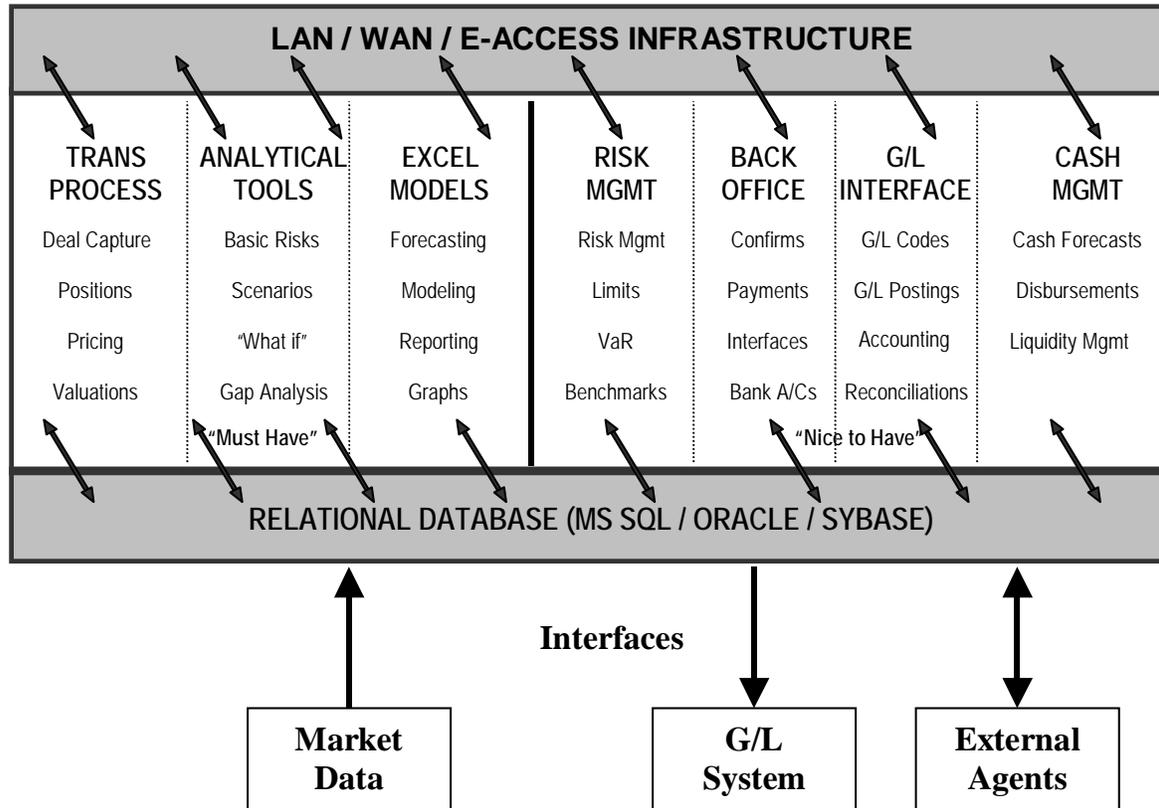
BEST PRACTICE TREASURY SYSTEMS

The industry best practice for treasury operations provides:

- Straight through processing from front office deal capture to back office settlement and accounting. This becomes increasingly important in an era of real time gross settlement.

- A single logical database to ensure data integrity and security across all operations of the treasury.

- An open database to provide business groups with readily accessible and timely information in key areas such as market, credit and liquidity risk, and for counterparty/client information.

- The flexibility to add applications to meet the changing business environment – for example, firm-wide risk management applications.

- An appropriate level of business continuity that meets audit and regulatory requirements and allows the organisation to ensure that its risk management objectives are achieved.

- Consistency with the organisation's overall IT strategy.

INTEGRATED APPROACH

Treasury operations have been moving towards an integrated system approach using a data warehouse as illustrated in Figure 1 below.

Figure 1: An Example of an Integrated System Approach

LAN / WAN / E-ACCESS INFRASTRUCTURE						
TRANS PROCESS	**ANALYTICAL TOOLS**	**EXCEL MODELS**	**RISK MGMT**	**BACK OFFICE**	**G/L INTERFACE**	**CASH MGMT**
Deal Capture	Basic Risks	Forecasting	Risk Mgmt	Confirms	G/L Codes	Cash Forecasts
Positions	Scenarios	Modeling	Limits	Payments	G/L Postings	Disbursements
Pricing	"What if"	Reporting	VaR	Interfaces	Accounting	Liquidity Mgmt
Valuations	Gap Analysis	Graphs	Benchmarks	Bank A/Cs	Reconciliations	
	"Must Have"			"Nice to Have"		
RELATIONAL DATABASE (MS SQL / ORACLE / SYBASE)						

Interfaces

| **Market Data**	**G/L System**	**External Agents**

This type of integrated system approach has made the front office applications the central data depository and the driving force for interfacing with middle and back office applications. The need for "real-time" positions and timely and accurate reporting of information to support risk management decision-making at all levels has been the main reason for this development.

The major benefit from an integrated system approach is the single logical database, which eliminates the need to reconcile across different systems and facilitates interfacing to a range of applications needed to support the business functions of the organisation.

WEB-BASED DEVELOPMENTS

Web-enable functionality and infrastructure could soon change this approach significantly. There is emerging a number of systems which could radically change the structure back towards a transaction or event-processing engine with an analytical application tool and a web-based user interface, as shown in Figure 2 below.

Figure 2: An Example of a Web-Based Approach

Desktop Apps / Web Browser
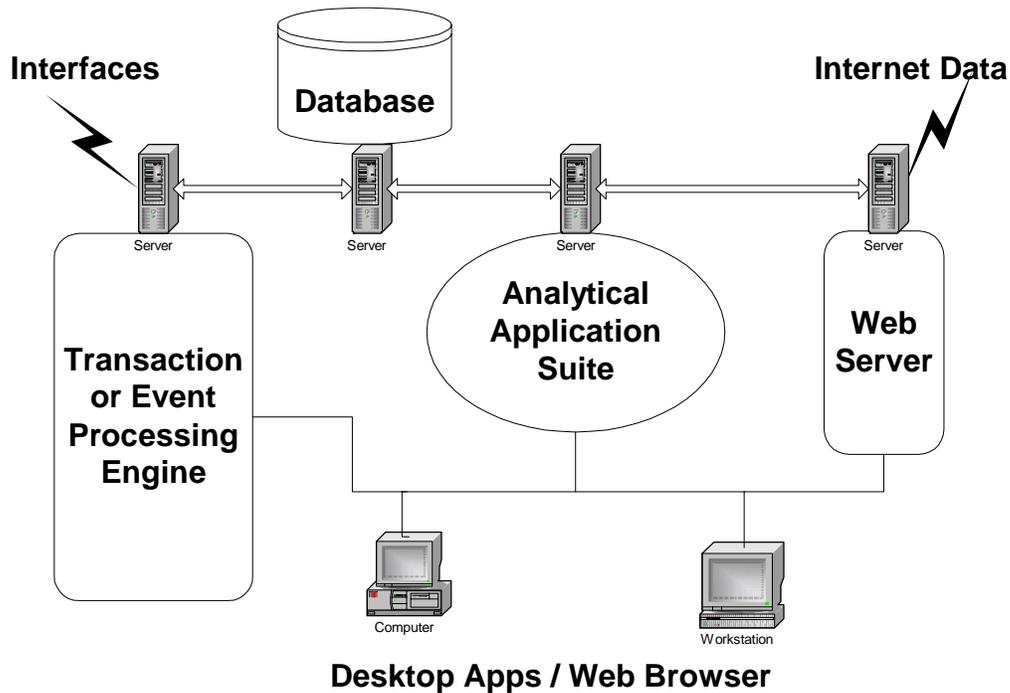
There are systems that are being developed to provide web-based analytical applications that could eventually replace existing front and middle office systems. These applications apply a set of business or mathematical rules related to the particular business application and a set of database rules to locate the data, which can be stored locally or obtained from the Internet. Back office processing is handled by the transaction or event-processing engine. The key to this structure is the analytical application, which does not require a single logical database. Instead, it locates the data from a defined source, thereby making use of the database of information available across the entire web.

While these treasury system developments are relatively new, the speed at which web-enabled technology and web-based applications are progressing would make it worthwhile to factor these developments into the treasury system evaluation process.

FREQUENTLY ASKED QUESTIONS

There are a number of questions that corporate treasurers ask when considering the need to find a replacement or upgrade of existing treasury systems. These questions often cover topics such as:

- Which system is best for us?

- We were impressed by a system demonstration – should we choose that system?

- We think we need a straight-through-processing treasury system – is this the correct approach?

- As we haven't the experience in selecting a system, what process should we follow?

- IT's view: Treasury has already decided on the system without a full evaluation process – how do we ensure that the system is the best solution?

- Treasury's view: IT does not understand our requirements – where can we go to get assistance?

- We hear that vendors do not deliver what they promise – what do they deliver?

- Should we use an outsource provider?

- What should our budget be for this project?

- How long will the project take?

- What resources do we need and why is it important to go through this intensive process?

To deal with these questions it is recommended that a well-designed strategy, using a proven methodology, should be established to select and implement each system, ensuring that the organisation fully understands the requirements and can meet these user requirements within the budgets established and the timetable needed to meet the decision support needs of the treasury operation.

KEY FACTORS

In the selection of any treasury system, it is important to identify and address high priority or "must have" requirements. This simplifies and speeds up the process, which then ensures that early benefits can be obtained during system implemention. Lower priority or "nice to have" requirements that may be added at some point in the future need to be identified in order to use these during the evaluation process.

HIGH PRIORITY OR "MUST HAVE"

Examples of "must have" requirements could be to:

- support a multiple entity and multi-currency structure;
- price, value and warehouse the following treasury products:
    - spot and forward foreign exchange,
    - money market instruments,
    - fixed income securities and loans,
    - currency and interest rate swaps,
    - forward rate agreements;
- provide real-time capture of all deals and integrated processing from the front to back office, other databases and Microsoft Excel spreadsheets;
- provide intra-day positions and limit monitoring using a standard "deal blotter" which can be configured by portfolio/book/sub-book/dealer;
- provide back office functionality including the automatic generation of deal confirmations, payment instructions on a gross and netting basis, bank account interfaces, G/L journals, and transaction processing and exception reports;
- compute basic risk statistics and monitor compliance against limits;
- provide a "what-if" simulation and forecasting capability for all portfolio variables;
- enable internal deals between portfolios/books/sub-books/dealers;
- provide a report generator to enable real-time, regular and ad-hoc user defined reporting;
- incorporate a user interface to external pricing tools and external applications including Microsoft SQL & Access databases, Microsoft Excel spreadsheets and the general ledger system;
- facilitate the export of data into other systems using industry standard protocols;
- incorporate industry standard audit and security features including the ability to clearly define and control access permissioning for each user.

LOWER PRIORITY OR "NICE TO HAVE"

Examples of "nice to have" requirements could be to:

- price, value and warehouse the following treasury products:
    - futures,
    - over-the-counter options,
    - exchange-traded options,

- commodities;
- handle complex deal structures;
- provide real-time profit/loss and profit attribution of portfolios/books/sub-books/dealers;
- have the ability to add scenario analyses, historical variance/covariance analyses, and Monté Carlo simulation analyses;
- have the ability to add stress testing and back testing analyses;
- have the ability to incorporate "benchmark" portfolios and compare these against actual portfolios/books/sub-books/deals on a standard or risk adjusted basis;
- provide for automatic creation of contra transactions when either side of an internal deal is entered;
- provide credit risk monitoring and control limits with the ability to track parent/child links and incorporate collateral and guarantees;
- provide the ability to enable notional capital to be allocated to each portfolio/book;
- provide flexibility and the ability to add or alter current functions in the future, particularly in the areas of electronic service delivery to be provided under the heading of "e-treasury";
- provide comprehensive and flexible management information facilities.

THE MARKETPLACE

From our experience in evaluating corporate treasury systems and from the research that we have undertaken internationally, there are a small number of systems available specifically for New Zealand corporate treasuries.

The vendors/systems listed below can provide treasury system functionality to meet most corporate treasury requirements. Those shown in **bold** are considered to be most suitable as they are likely to fit within a corporate treasury's budget and are products that have a track record in the Australasian corporate treasury market.

Vendor	System(s)	Vendor	System(s)
Advent Software	Advent Office Suite of Solutions	Midas Kapiti International	Midas / Equation / Opics / City Dealer / Market Watch & Trader
AFA Systems	Musketeer Plus	MKI Risk	Risk Vision
Algorithmics	Algo Suite	NetRisk	RiskOps / Chrystal Box / Risk-in-Time

Vendor	System(s)	Vendor	System(s)
Alterna Technologies Group	Auros	OMR Systems	Trading Assistant
Bloomberg	Portfolio Trade Order Management	PeopleSoft / FEA	Treasury Management
Brady Financial Trading Solutions	Trinity	Reuters Risk Management / Diagram	Kondor+ / KVAR+ / Diagram Capital Markets
Calypso Technology	Calypso	Richmond Software	Millennium / Treasury Portal
Capix Treasury Systems	**CTM 2000**	Salmon Software	Treasurer 2001 for Windows NT
CCK Financial Solutions	**Guava Dealer, Risk & Operations**	Selkirk Financial Technologies	Treasury Manager
Demica	Citadel	**SimCorp**	TMS 2000 / **IT/2**
Econintel Treasury Systems	ETS for Windows	Solid Gold Financial	Sold Gold
FNX Limited	Sierra / eSierra / E2STP	Summit Innovative Financial Solutions	Summit Trading
Financial Software Systems	Spectrum	SunGard Trading & Risk Systems	Infinity / eFinity / Devon / Panorama / Opus / Treasury Trader
FTI Treasury Systems	FTI Star	**SunGard Treasury Systems**	**e-Treasury / Quantum / Qrisk**
Integral Development Corp	e-business Solutions	Treasury Management Systems	Monarque
Integrity Treasury Systems	**Integra-T**	Treasury Technology	BenchmarkTM
Intermark Solutions	Focus	Trema Group	Finance KIT
Lombard Risk Systems	Oberon / FirmRisk / ValueSpread	Ubitrade	Capital Markets / Futures & Options
Manex Treasury Systems	Parity	Wall Street Systems	The Wall Street System

The acquisition of a treasury system in a market that often requires rapid development of new functionality means that it is important to find a vendor that the organisation is able to work with to make enhancements and develop new functionality. The ability to develop a working relationship with the vendor should be included in the system selection and assessment process. It is quite common to work in partnership with a vendor to enhance the system functionality, which may be essential for meeting future requirements.

SYSTEM SELECTION AND IMPLEMENTATION

SELECTION AND IMPLEMENTATION PHASES

The selection of a treasury system needs to follow a well-structured and proven methodology. The key components of the selection and implementation process are:

- initial scoping study to determine appropriate way forward;

- fully documenting treasury requirements;

- issuing an Expression of Interest and/or Request for Tender to a selected number of treasury system vendors;

- demonstrations, evaluation and selection of a preferred treasury system(s);

- pilot test evaluation and final selection of the preferred treasury system;

- business process review of treasury operations;

- contract negotiation with the preferred vendor;

- implementation of the preferred treasury system.

KEY ISSUES IN SELECTION AND IMPLEMENTATION

The purchase of an off-the-shelf system will require working with a vendor. There are a number of key issues to consider when choosing a suitable vendor. These will include examining the size and stability of the vendor, their approach to pricing (software, maintenance, releases and upgrades) as well as on-going development, and how you "get on" with their team. It can be extremely useful if you can get to know the vendor before purchasing the system.

It is very important to check references to find out who else uses the system and whether the reference sites are happy with the solution. This can also identify what problems the reference sites have encountered and to find out whether the reference site would use or buy the product again given their experiences.

Good project management skills will be needed throughout the selection and implementation stages. Vendors do not normally have resources or the skills for implementation project management. Therefore, it is quite common for vendors to seek specialised resources for implementation project management.

It can be useful to build a relationship with the vendor and to establish a win-win framework. This requires establishing a wide range of relationships and getting to know the people. Getting to know other clients can be extremely beneficial for problem resolution and understanding the system.

It will be complex to move from existing systems to a new system, particularly if you puchase an off-the-shelf system. Good project management will manage users' expectations, use business process reviews to leverage off the system and ensure maximum benefit, and will involve staff as much as possible throughout the implementation. User "buy in" is the key to the success of any systems project.

KEY ADVICE

Feedback from corporate treasurers and based on our own experiences, the following advice should be heeded with any treasury system selection and implementation project:

1. This will be a significant capital investment so you will want to get it right – it is unlikely that you will get a second chance to choose the right system.

2. Ask the question, "Based on the information we have, are we 100% satisfied we are making the right decision?"

3. You need to ensure senior management involvement and support.

4. You need an energetic and enthusiastic champion for the project.

5. This will not be like buying and installing a product like Microsoft Office, you will need to build a relationship and work with the selected vendor.

6. These projects are complex and will take time.

7. You will need dedicated resources throughout the whole project.

8. You will need to be clear about functionality requirements and priorities, and you will need to make trade-offs during the evaluation process.

9. Manage user expectations and obtain user buy-in to guarantee a successful implementation.

10. A sound project structure, good project manager and careful project management can ensure success.