



LIQUIDITY MANAGEMENT

Comprehensive Cross-border Liquidity Management Solutions

LIQUIDITY MANAGEMENT INDUSTRY OUTLOOK

Corporates' liquidity totals
approximately

\$12 tn

Surveys indicate that principal
banks get **2-3** times
more business
share than secondary banks

75-80%
of revenues are account based
and 20 -25% are fee based



Banks Expect 14.4% Increase in Business from Existing Customers by Offering Cross-border Cash Pooling Services.

Finextra Market Intelligence report

50-60%
return on capital for banks
earned from treasury services

\$330 bn
market globally for liquidity

5%
annual increase
in liquidity revenue

Cash surplus has jumped in the
last 5 yrs: 500 companies have
crossed off **\$1 tn**
cash reserves



DON'T JUST MANAGE LIQUIDITY - OPTIMIZE IT

An inter-connected globalised economy means that no country can forever remain insulated from financial turbulence across their geographical borders. For multi-country conglomerates with accounts spread across countries, currencies and entities, optimization of liquidity has become critical. However, with diverse regulations, core banking systems, currencies, tax structures and local market complexities, it is becoming difficult to even have a comprehensive view of funds across countries.

Frequent fluctuations in the global economy following the global financial crisis have made businesses more risk-averse, resulting in surplus unutilized liquidity lying idle in low or negative interest rate economies. This has

multiple negative fallouts - paying excess interest on borrowing in one country when unutilized surplus is lying idle in another, funds lying in countries offering low or even negative interest rates, borrowing at high cost from external borrowers when inter-company lending can be a cheaper source of funds, the impact of effective liquidity management can be enormous for your clients.

It's not only the corporate clients who would gain. By helping corporate clients improve revenue and profitability, banks could progress from being a transaction banker to becoming the principal banker for key clients. By charging valid fees and charges, the bank can mitigate, or even reverse, any loss of interest on account of notional pooling.

CASE STUDY LARGE GLOBAL BANK REPLACING LEGACY LIQUIDITY MANAGEMENT SYSTEM

ABOUT THE BANK

One of the world's largest banking and financial services organisations in the world with an international network comprising more 5000 offices across nearly a 100 countries and territories in Europe, the Asia-Pacific region, the Americas, the Middle East and Africa.

THE NEED

The bank wanted to transform its global liquidity solution for global, high value clients. The existing legacy liquidity management application had limited functionality, was closely coupled with its core banking platforms and was not scalable. The bank wanted to implement a robust, scalable, central platform with state-of-the-art technology and business features.

IGTB SOLUTION

iGTB Liquidity Management, an application built on a J2EE-Oracle technology stack was implemented as a single instance, global platform capable of hosting the bank's current and future liquidity management products and based on a highly scalable, fault tolerant architecture supporting high volume, high performance, concurrent batches for multiple countries.

The implementation supports complex system integration with multiple core banking and back office systems



PREFERRED LIQUIDITY MANAGEMENT SOLUTION ACROSS THE GLOBE

The primary goals of any corporate treasurer are simple —reduce interest costs, manage and predict cash flow and optimize surplus cash in the system. Banks using iGTB's Liquidity Management solutions enable the treasurer to manage these activities effectively and efficiently by providing smart algorithmic tools that automate many of these tasks as driven by the corporation's liquidity policy.

Within a span of a few years, iGTB has emerged as a global leader in liquidity management catering to large Tier 1 banks needing an integrated solution as well as small SME banks needing specific modules.

- iGTB awarded "Ability To Deliver Beyond Cash Management" title by Aite Group in its 2014 Evaluation of Leading US Cash Management Providers report.
- Mashreq, a noted iGTB Liquidity Management customer, wins prestigious Celent "Model Bank" award for the "Integrated Cash Management Solution", scored for quantitative success measures, degree of innovation and technology or integration excellence.
- AITE Group places iGTB as among the top 3 providers of global liquidity solutions for banks.

Business Benefits:

A comprehensive offering that can handle complex liquidity structures

Ability to handle difficult territories, including Entrust loans (specific to China) and Nordic peculiarities

Rule-based algorithmic liquidity which empowers the corporate treasurer with real-time decision making abilities and the flexibility to alter structures

Flexibility of design allowing seamless integration with existing banking systems

Follow-the-Sun' capability to make the corporation's cash work and grow 24 x 7



Widest Breadth of Liquidity Solutions for the Unique Needs of Your Corporate Clients

PHYSICAL SWEEPS ALGORITHMIC LIQUIDITY AT THE HEART OF CORPORATE CASH FLOW

Cash is important for every corporate, whether big or small, banking in a single country or in many and operating in a single currency or hundreds. iGTB's algorithmic Liquidity Management solution helps the treasurer move surplus cash or fund shortfalls to where they are safest and most cost-effective. In case of shortfalls the treasurer can utilize the funds that are moved from accounts which have surplus funds and can reduce or nullify the interest to be paid. The solution is powered by componentized modules that work in unison to deliver automated flow of cash across the corporate as required.

With the ongoing volatility and unpredictability of the global economy, corporations today want mobility of cash along with options to retain and grow the cash in hand. Traditional liquidity management was limited to static sweeping. Algorithmic liquidity, on the other

hand, helps treasurers reduce interest costs using mathematical models, transact even on accounts with TPB through a single system and maximize investment returns by making cash work 24x7 using the follow-the-sun model.

iGTB Physical Sweeps is a global solution for automated/manual fund transfer between accounts based on algorithmic liquidity. It offers both domestic and cross-country physical sweeps. To maximize yield on the corporate customer's daily cash, the system helps to concentrate surplus balances and deficit balances at a pre-defined period into one concentration account. Under a physical sweep structure, balances in multiple accounts/multiple currencies are physically transferred from participating accounts to a designated concentration account in a single bank or across banks.

Key Features

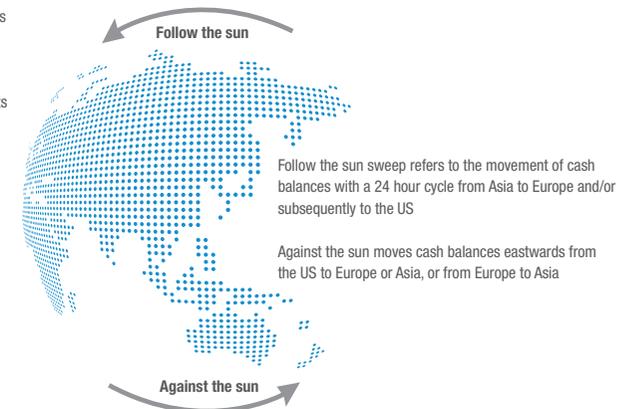
- Cross-border, cross-currency sweeps to optimize interest cost
- Parameter driven approach for interest calculation and distribution
- Special offerings for regulated markets
- Bolt-on system allowing it to work with multiple backend systems
- Interface layer allows new interfaces to be added without disturbing the product
- Built on SOA principles and customizations on base product can be built easily
- Default setups for reducing data entry errors by bank staff
- Sub product creator - launch new products rapidly
- Quick input for faster and error free data entry by operations

Offerings

- Day-Zero Sweeping
- Multi Bank Cash Concentration
- Cross Currency Cross Border Branch Consolidation,
- Funding Deficits Sweeps
- Tax Saver Sweeps
- Percentage Sweeps
- Range Balancing Sweeps
- Target Balancing Sweeps
- Zero Balancing Sweeps

Execution Flexibility

- End of Day: Most commonly used for consolidation and overnight investment
- Start of Day: Funding operative accounts
- Intra Day: Investment opportunities during the day are met
- Event-based Sweeps: Smart movements based on pre-configured events



Single Installation, Multi Country Rollout with Support for Multiple Regional Regulatory Requirements

NOTIONAL POOLING OPTIMIZE LIQUIDITY REDUCE INTEREST BURDEN

Over the years, cash pooling had been a preferred mode of utilizing surplus liquidity, reducing interest costs and centralization of corporate treasuries. The wave of globalization and the financial crisis brought new challenges for treasuries to manage funds across borders, in multiple currencies, acquired companies and subsidiaries, and diverse banking groups. Not all jurisdictions were "Open" for transferring funds across borders. This led to notional pooling of funds across the globe so that a corporation could still free the trapped cash effectively to reduce the interest burden.

Using notional pooling, corporate clients of banks can minimize cost of borrowing and also reduce interest payable.

For instance, a global bank with a branch in a country that does not permit physical sweeps can repatriate surplus liquidity to a branch in another country, where it has been paying high interests on account of overdraft, through cross-currency balance netting.

The bank, on the other hand, can recover the interest lost by charging valid fees and charges such as capital adequacy fees, pooling service charges etc.

Key Features:

iGTB offers various notional pooling structures based on the client's needs:

Traditional notional pooling

- Simple and aggregate pools
- Single-currency domestic pools
- Multi-currency domestic pools
- Cross-border and cross-currency

Hybrid pools

- Single and multi-currency global overlay
- Notional pools over sweep hierarchies
- Drained pools (sweeps off notional pools)

Non set off notional pooling products

- Interest enhancement
- Interest optimization

The solution offers an exhaustive and customizable interest rules engine, allowing banks to define rules as per their requirement.

Features:

- Multiple account pooling,
- Interest pooling, margin pooling
- Provision for withholding tax, capital adequacy
- Built-in interest/margin allocation algorithms and configurable rules
- Scheduling: manual, automated, immediate, times-of-day, end of day
- Domestic and cross-border (where regulations permit), single-currency and cross-currency, single-entity and cross-entity



Take Notional Pooling Into More Countries than Your Competitors Can

INTERCOMPANY LOANS

3 Pillars for Corporate
Treasurers – Consolidate,
Optimize and Maximize

A necessary companion to liquidity structures, intercompany loans allow the banks' corporate clients to utilize surplus liquidity in one entity to fund shortfall in another legally. Also, depending upon the country-specific regulations and the prevailing interest rates, banks can move funds branch from a low interest-rate country to high-interest rate country.

For countries with complex regulation such as China, which do not allow traditional inter-company lending, the solution offers support for instruments such as entrust loans.

Key Features:

- Multi legal entity fund management
 - Physical Pooling generated cross legal entity fund transfers
 - Funds transferred outside the system can be tracked as well
- Revolving and Non-revolving loans possible
- Manage and minimize risk using:
 - Group facility Limit, the maximum amount of all loans availed by company
 - Sub Facility Limit, maximum amount of loan between accounts
- Entrust loan, a China specific liquidity management technique with tax saving models
- Loan Life Cycle Supports
- Maturity handling both auto settle and roll over
- Loan Pre payments and Repayment options
- Daily Tracking for its Net Outstanding, Daily Interest Accrual, Maturity Repayment & Limit Breach, Interest & Tax Posting



Remove the Burden on the Treasurer to Account
for Daily Inter-lending



INTEREST ENHANCEMENT PROTECT REVENUE ENHANCE INCOME FROM FEES

For banks, offering liquidity solutions such as notional pooling could be a double-edged sword. While the corporate client's interest burden is reduced, the bank is liable to lose out on interest income. To recover the interest lost, iGTB Liquidity Management allows the bank to charge enhanced rates, based on various parameters like

- Pool position
- Pool base currency
- Participant country
- Participant currency
- Credit rating
- Participant position

A configurable business rules engine allows specification of credit and debit margins based on pre-defined slabs.

Interest Enhancement and Interest Optimization are non set-off notional pooling products with a powerful interest engine for pre configured extensive set of balances and interest conditions, tiered interest rates possibilities for various client groups, new kinds of interest possibilities using configuration and interest / benefit distribution for various models.

Key Features:

- Automatic accounting for intercompany loans
- Two-way loans
- Flexible market-based interest rates
- Interest settle/net/accrual



Allows Liquidity Structures to Go Where Others Think They Cannot

AUTOMATED INVESTMENTS OPTIMIZE LIQUIDITY AUTOMATE INVESTMENTS

Provide solutions which enable the treasurer to hand over the "drain on resource" routine tasks supporting the investment process while still maintaining full control over the companies' investment policy.

Also provide risk management capabilities relating to: operating, credit/counterparty; liquidity and settlement risk through:

- Diversification (on & off balance sheet)
- Highly configurable, automated investment capabilities
- Establishing parameters for investing, including risk tolerance, duration, counterparty selection and types of vehicle while leaving execution to the bank

Key Features:

- Dynamically rebalance cash holdings across investment portfolios
- Manage customers' surplus cash in line with their investment policy
- Minimise risk associated to customer liquidity operations through the automated trading and settlement of investment activities
- Provide a single global comprehensive view of customer holdings

Features:

Investment Options

- Money Market Funds
- Unitised Time Deposits

Rule-based Investments

- Investment of available cash into pre-defined instruments
- Priority based investments as per risk appetite and business strategy

Controls

- Limits management for exposure to fund
- Auto liquidation of funds from lower to higher priority
- Manual trigger for trade placement and redemption



Bake the Investment Policy into the System – the Treasurer
Makes the Policy and Authorizes the Investments – the Bank
Does the Execution (and Pockets the Fees)



CASH FLOW FORECASTING CASH THE LIFEBLOOD OF BUSINESS

With the global financial crisis resulting in multi-bank engagements across multiple countries and currencies, iGTB liquidity management helps manage cash flow and liquidity across banks by tracking payments being received into multiple banks, and reconciling them against invoices. Varying tax structures are taken into account for optimizing the real-time value of cash.

Knowledge of cash source and time of its requirement helps companies use cash efficiently. As companies look for more attractive longer-term investments, clear insight into cash flow will become indispensable. Treasurers are no longer back-office support, but are expected to report on real-time exposure, liquidity balances and detect and assess the impact of key changes in the environment. This will help the treasurers avoid unpleasant surprises and perform course correction.

Key Features:

- Cash positioning
- Cash forecasting
- Cash optimization
- In-house bank
- Analytics
- Risk monitoring

Cash Forecasting

- Cash forecasting across SBUs/Divisions/Regions
- Cash forecasting across multiple currencies
- Data Aggregation from multiple systems (corporate and bank)
- Liquidity centric display of cash over flexible tenor buckets
- Integrated with bank's services for action (invest/borrow)
- Option to manually upload data to build the forecast



Corporations Can Always Know Where the Cash is – and will be (or will be Short)

WORLDWIDE LIQUIDITY AT-A-GLANCE

	Notional Pooling		Physical Sweeping		Investment Sweeps	
	Permitted	Cross Border	Permitted	Cross Border	Money Markets	Time Deposits
AMERICAS						
Argentina	No	No	Yes	Yes	Yes	Yes
Brazil	No	No	Yes	Yes	Yes	Yes
Canada	Yes	Yes	Yes	Yes	Yes	Yes
Chile	No	No	Yes	Yes	Yes	Yes
Mexico	No	No	Yes	Yes	Yes	Yes
Peru	No	No	Yes	Yes	Yes	Yes
Puerto Rico	Yes	Yes	Yes	Yes	Yes	Yes
Uruguay	Yes	Yes	Yes	Yes	No	Yes
USA	Yes	No	Yes	Yes	Yes	Yes
AFRICA						
Egypt	Yes	Yes	Yes	Yes	Yes	Yes
Ghana	No	No	Yes	No	Yes	Yes
Nigeria	Yes	No	Yes	No	Yes	Yes
South Africa	Yes	No	Yes	No	Yes	Yes
MIDDLE EAST						
Bahrain	Yes	Yes	Yes	Yes	No	Yes
Israel	Yes	Yes	Yes	Yes	No	Yes
Qatar	Yes	Yes	Yes	Yes	No	Yes
Saudi Arabia	Yes	No	Yes	No	Yes	Yes
UAE	Yes	Yes	Yes	Yes	Yes	Yes
MIDDLE EAST						
Bahrain	Yes	Yes	Yes	Yes	No	Yes
Israel	Yes	Yes	Yes	Yes	No	Yes
Qatar	Yes	Yes	Yes	Yes	No	Yes
Saudi Arabia	Yes	No	Yes	No	Yes	Yes
UAE	Yes	Yes	Yes	Yes	Yes	Yes
ASIA						
China	Yes	Yes	Yes	Yes	No	Yes
Hong Kong	Yes	Yes	Yes	Yes	Yes	Yes
India	No	No	Yes	Yes	Yes	Yes
Indonesia	Yes	Yes	Yes	Yes	Yes	Yes
Japan	Yes	Yes	Yes	Yes	Yes	Yes
Malaysia	Yes	Yes	Yes	Yes	No	Yes
Mauritius	No	No	No	No	Yes	Yes
Philippines	No	No	Yes	Yes	Yes	Yes
Singapore	Yes	Yes	Yes	Yes	Yes	Yes
South Korea	No	No	Yes	Yes	Yes	Yes
Sri Lanka	No	No	Yes	No	Yes	Yes
Taiwan	Yes	No	Yes	No	Yes	Yes
Thailand	Yes	No	Yes	Yes	Yes	Yes
Turkey	No	No	Yes	Yes	Yes	Yes
Vietnam	Yes	No	Yes	No	Yes	Yes
ANZ						
Australia	Yes	Yes	Yes	Yes	Yes	Yes
New Zealand	Yes	Yes	Yes	Yes	Yes	Yes
EUROPE						
Austria	Yes	Yes	Yes	Yes	Yes	Yes
Belgium	Yes	Yes	Yes	Yes	Yes	Yes
Bulgaria	Yes	Yes	Yes	Yes	Yes	Yes
Croatia	Yes	Yes	Yes	Yes	No	Yes
Czech Republic	Yes	Yes	Yes	Yes	Yes	Yes
Denmark	Yes	Yes	Yes	Yes	Yes	Yes
Finland	Yes	Yes	Yes	Yes	Yes	Yes
France	Yes	Yes	Yes	Yes	Yes	Yes
Germany	Yes	Yes	Yes	Yes	Yes	Yes
Greece	Yes	Yes	Yes	Yes	Yes	Yes
Hungary	Yes	Yes	Yes	Yes	Yes	Yes
Ireland	Yes	Yes	Yes	Yes	Yes	Yes
Italy	Yes	Yes	Yes	Yes	Yes	Yes
Luxembourg	Yes	Yes	Yes	Yes	Yes	Yes
Netherlands	Yes	Yes	Yes	Yes	Yes	Yes
Norway	Yes	Yes	Yes	Yes	Yes	Yes
Poland	Yes	Yes	Yes	Yes	Yes	Yes
Portugal	Yes	Yes	Yes	Yes	Yes	Yes
Romania	Yes	Yes	Yes	Yes	No	Yes
Russia	Yes	No	Yes	No	Yes	Yes
Serbia	Yes	No	Yes	No	No	Yes
Spain	Yes	Yes	Yes	Yes	Yes	Yes
Sweden	Yes	Yes	Yes	Yes	Yes	Yes
Switzerland	Yes	Yes	Yes	Yes	Yes	Yes
Ukraine	Yes	No	Yes	No	No	Yes
UK	Yes	Yes	Yes	Yes	Yes	Yes

WHAT LIQUIDITY MANAGEMENT CONTAINS

Account Services	Liquidity	Analytics	Common Services	Back-office
Account Summary	Sweep Structure Set-up	Cash Position	Personalized Dashboard	Customer Registration/Profile
Account Details View	Sweep Amendment	Top 5 Account Balance View	Multi-Lingual Support	User Creation
Account Transactions View	Suspend/Revoke Structure	Other Configurable Analytics	Mailbox	User Profiling
External Account Summary	Terminate Structure	Sweep Simulation	Alerts & Notification	Account/Criteria Linkage
Deposit Summary	Sweep Inquiries & Reports	Pool Simulation		Workflow Rules Definition
Deposit Details	Pooling Inquiries and Reports			Audit Report
Deposit Rate View	Pooling Structure Pictorial View			
Account Hierarchy View	Pool Structure Maintenance			
Exchange Rates View	Pool Interest Maintenance			
	Investment Sweeps			

Legend

- Out of the Box
- Roadmap available

THE WORLD'S FIRST COMPLETE GLOBAL TRANSACTION BANKING PLATFORM



RUN THE BANK. CHANGE THE BANK. DESIGN THE BANK. iGTB is your platform to power your way to principal banker position. Designed for complexity reduction between banks and corporate customer operations, superior workspace design technology assures enhanced operational productivity, while you deliver addictive customer experience through agile architecture with banking services apps technology. With the top global transaction banks running on our solutions we are the authority progressive banks rely on to realize their GTB ambitions.