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# A detailed overview of Realiti modules

A closer look at analytical tools for liquidity management

## The necessity of liquidity management

Whatever the size, all financial institutions must manage their exposure to risk. Liquidity management plays a key role in ensuring an institution has access to sufficient liquidity to meet its payment obligations without incurring excessive costs. As your bank or financial institution must have enough cash to deal with typical settlement activities and any unexpected crisis, while still making payments in real time, intraday liquidity management (ILM) is a necessary and important function. An efficient intraday liquidity management process enables your measurement of payment, clearing, and settlement activities throughout the business day as opposed to a historically more traditional end-of-day approach. Realiti<sup>®</sup> uses innovative new technologies to help you address real-time intraday data challenges.

### Contents

The Realiti suite	4	Intraday Stress Modeling module	11
Realiti core platform	5	Payment Control module	12
Intraday Liquidity Management core module	6	Intraday Balance Forecasting module	13
Funding and Forecasting module	7	Inventory Monitoring and Management module	14
Intraday Reconciliation module	8	Strategic Reporting module	15
Regulatory Reporting module	9	Overcome intraday liquidity management challenges	16
Vostro Management module	10		

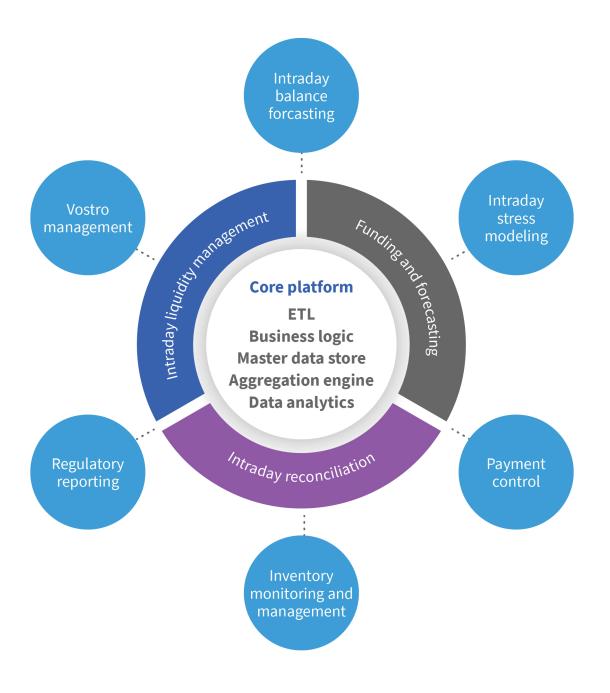
### The Realiti suite

Realiti from Infor<sup>®</sup> is designed to provide your organization with the insight and analytics to manage all intraday activity.

Realiti is the only liquidity management software on the market with the proven ability to manage intraday cash and liquidity in real time. Featuring a suite of insight and analytics modules, Realiti combines deep knowledge of the financial industry, intraday experts, and an innovative bank compliance management system in one modern solution.

This innovative software is designed and architected to continually process very high data volumes and deliver the real-time visibility demanded by your organization's various user communities. Realiti users gain greater visibility and control, can oversee all intraday activity, and maintain compliance with current and emerging regulatory requirements. Infor partners with our clients to select the most appropriate configuration from our suite of solutions to support your specific needs.

A detailed overview of Realiti modules



### Realiti core platform

Realiti's core platform is the engine of the system. In real time, the platform consumes and intelligently transforms transactional messages from external account providers and consolidates them with internally projected activity, ensuring your financial institution has accurate, up-to-date data for analysis.

Users can run queries that drill down and summarize across a range of hierarchies. These hierarchies are maintained for current positions (based on consuming, in real time, external cashflow data delivered from account providers) and also future dated projections (based on consuming, in real time, internal transactions fed from internal bank systems such as ledger projections, and outgoing payment instructions).

For example, information can be aggregated by the organization's internal hierarchy (legal entity, business group), by currency, by account provider (e.g., agent bank group, agent bank legal entity). This sorting, filtering, and aggregating capability is available across the full range of Realiti charts and reports. In addition, Realiti has specific transaction viewers (for external cashflow confirmations, internal ledger cashflows, and payment instructions), which allow the user to drill down to individual transactions and identify all details of the transaction (e.g., timestamp, value, sender ID, book ID, product). Data, both aggregated and granular, can be exported from Realiti by the user for any additional analysis as required.

#### Graphite platform

• Access a platform specifically designed to address a bank's real-time intraday cash and liquidity management needs

#### Ultra-scale architecture

• Process and analyze the transaction volumes of the largest global banks in real time

#### Security and robustness

• Address the challenging non-functional requirements of a global bank

#### Multiple deployment options

• Deploy the solution as SaaS, private cloud, or on-premises





### Intraday Liquidity Management core module

#### Time to value

- Deploy in weeks not months
- Eradicate existing manual processes

#### Immediate financial savings

- Optimize expensive liquidity buffer requirements
- Identify and utilize available cash

#### Minimize risk

- Access real-time decision-making
- Gain complete visibility across all accounts
- Ensure smooth payment processing
- Reduce exposure
- Understand liquidity usage

The Intraday Liquidity Management (ILM) core module provides comprehensive visibility of your organization's settlement activity across all its direct and indirect accounts. Balances, turnover, and transactions are stored, aggregated, and analyzed every minute of every day to give real-time intraday insight and informed decisionmaking. Positions can be compared against set limits with early-warning indicators configured to send alerts when required. ILM enables real-time visibility of actual cash-flow positions across the organization. This provides users with the ability to drill up, down, and across your organization's and its account providers' hierarchies; view and analyze a single account or aggregate up to views across multiple currencies and regions, including:

**Intraday balance**—This chart shows the real-time intraday balance of one or more nostros over a selected time period.

**Intraday turnover**—This chart provides an hourly snapshot view of total debits, total credits, and net turnover across single or multiple days.

**Transaction view**—Provides users granular insight into the particular transactions that make up summary balance, turnover, and credit figures. Transactions can be viewed on screen or exported for further analysis.

**Credit view**—Allows users to compare balances in real time and to monitor against set limits such as credit lines. The chart can be used to identify potential problems as they occur or used to perform historical trend analysis.

**Pivot views**—Gives users the ability to aggregate data in a format similar to pivot tables in Microsoft<sup>®</sup> Excel<sup>®</sup>. Pivot views can be used to look at historical data at a point in time or run in "live refresh" mode so that the latest view of the data is available.

**Balance proofing dashboard**—Allows users to check the coverage and accuracy of the end-of-day statements received from their correspondent banks. This highlights where correspondents fail to provide full coverage of intraday advice or end-of-day statements, giving your organization the tools it needs to improve service from its agent network.

### Funding and Forecasting module

#### Sound liquidity management

- Forecasting is a fundamental tool
- Monitor intraday liquidity against planned activities
- Forecast shortfalls and funding requirements
- Manage long positions

#### Increase forecasting accuracy

- Access historical data going back many years
- Monitor today versus historical patterns
- Forecast activity that is not notified in advance
- Handle amendments, cancellations, nettings, matches, settled statuses
- Leverage forecasting accuracy intraday and end of day

Funding and Forecasting (F&F) takes cash flow projections from the firm's internal and external systems and delivers detailed analytics and forecasts of end of day projections for all accounts. Used in conjunction with intraday liquidity management, the module provides a single view of real-time actual and projected activity. This view transforms the funding model and cash management process. Legacy funding approaches take funding decisions based only on ledger bookings and presume perfect settlement. F&F uses the external confirmations of settlement recorded in real time within Realiti's Intraday Liquidity Management module to provide insight into actual settlement behavior. End-of-day balance projections are updated continuously in real time to provide the most up-to-date information to support funding analysis. Funding decisions become more accurate, funding swings are reduced, and closing balances are optimized.

F&F is a comprehensive cash management solution, featuring a range of additional capabilities. Users can see cash impacting the account from unexpected transactions, most typically from "unable to apply" receipts. Users can make manual adjustments, subject to four-eyes audit processes within Realiti, which impact end-of-day projections to reflect the most up-to-date information available to the funding professional. Sweeps (liquidity transfers) can be instigated within Realiti to optimize liquidity positions. Such sweeps can be manually instigated or identified automatically by Realiti to hit target balances. Extensive fails processing ensures the impact of unsettled transactions, from previous value dates (fails), can be managed within today's and future days' projections.

### Intraday Reconciliation module

#### Automated real-time reconciliation

- Match planned to actual activity
- Utilize advanced configurable real-time matching rules
- 1:1 / 1:Many / Many:Many
- Circa 95% auto-match rates

#### Further enhance forecasting accuracy

- Identify which planned cash flows have settled
- Analyze at multiple levels of aggregation
- Identify drivers of intraday usage
- Forecast accuracy intraday and end of day
- Enhance funding processes

#### **Eradicate silos of information**

• Access a common, centralized view of ledger activity

Intraday Reconciliation (IR) links together external confirmations from account providers with internal projected ledger bookings. This module enables much more timely awareness of the progress of settlement activity to support funding processes and delivers enhanced insight on the drivers of liquidity usage. IR works intraday rather than the traditional end-of-day or T+1, transforming from a batch world into one of real-time updates and insight. As new transactions are consumed by Realiti the matching process is instantaneous.

IR enables ledger-to-external matching (and vice versa) plus ledger-to-ledger and external-to-external matching to optimize the accuracy of Realiti's data sets. Both automatic and manual matching is provided to ensure end-users have the ability to refine the match population, matching, and unmatching as required.

The IR module has an extremely flexible and user-friendly graphical user interface for end-users to create and update auto-matching rules. Rules can be configured to support a wide range of matching conditions and transaction groups, including one-to-one, one-to-many, and many-to-many. Rules can be prioritized and applied to the transactional data sets in the most suitable order to maximize matching performance.

IR enhances the cash management capabilities of the Funding and Forecasting module. IR enriches Funding and Forecasting's view of projected activity by adding settlement status, provides visibility on unadvised cash movements and underpins fails management processing.

### Regulatory Reporting module

- Leverage an advanced technology platform
- Utilize real-time insight into cash and liquidity
- Access report templates for regulatory reporting
- Take advantage of on-demand regulatory reporting capabilities
- Ensure compliance by meeting regulatory requirements
- Manage cost reductions from reduced intraday liquidity buffers

Since the financial crisis of 2008, there have been increasing regulatory pressures for banks to manage their intraday liquidity more efficiently, with an emphasis on deploying tools that can report on historical periods and also monitor and manage on a real-time basis. Realiti was built specifically to deal with the intraday liquidity challenge, in particular, the need to comply with new global intraday regulations introduced under the BCBS 248 regime. The Regulatory Reporting module has been designed to collect and store the right types of data, at appropriate levels of granularity, and to meet intraday reporting requirements. The module contains a comprehensive selection of report templates, allowing users to run reports on demand and produce the results in real time–demonstrating to regulators control of liquidity monitoring requirements with no need for manual intervention or complex calculations.

With the module, firms can generate reports that show the required monthly peaks and troughs of liquidity usage and also single and multiple days to support trend analysis. The results are available to be viewed on screen and can be exported for further analysis or dissemination.

To keep pace with regulatory developments, the module is regularly updated, insuring firms adhere to the global BCBS 248 agenda and the more bespoke requirements of individual regulators. This includes the UK PRA with its own intraday regime, which is an extension of BCBS 248.



### Vostro Management module

- Leverage an advanced technology platform incorporating machine learning and artificial intelligence (AI)
- Take advantage of real-time insight into vostro (client) accounts
- View accounts individually or aggregated into hierarchies
- View largest users of credit to support risk and charging decisions
- Monitor vostro accounts in the same system as nostro accounts
- Utilize insight to meet BCBS 248 reporting requirements

Client activity, whether in aggregate as a total portfolio or individually for very large clients, can have a major impact on your bank's intraday liquidity.

Realiti is architected to monitor and analyze the activity of many types of accounts, utilizing intraday messaging to provide insight into balances and transactions and provide aggregations across many hierarchies. This architecture is vital to be able to deliver vostro account analysis, given the potentially millions of transactions per day created by customer behavior.

The Vostro Management module provides specific views that allow users to understand client intraday balances in aggregate or granular detail. With the module, users can better understand and monitor client behavior, credit risk, and the impacts on the firm's liquidity usage.

Client intraday profiles can be monitored in real time, with alerting that can to identify exceptional activity, and historically to identify the key users of liquidity and support cost-recovery initiatives. This intraday insight can be shared with your relevant customers to encourage preferred liquidity behaviors and support any intraday charging regimes. Additionally, the vostro intraday information can be used to report and demonstrate regulatory compliance.



### Intraday Stress Modeling module

- Leverage an advanced technology platform incorporating machine learning and AI
- Utilize data history to define a typical intraday day
- Determine the impact of stressed conditions and scenarios
- Utilize scenario outcomes to develop contingency plans
- More accurately forecast contingency funding requirements
- Adhere to regulatory requirements

As part of regulations introduced since the 2008 financial crisis, regulators require banks to apply a range of stress scenarios to their historical intraday profiles. This modeling is used to ensure banks understand, monitor, and are ready to mitigate any intraday liquidity stresses and to help size liquidity buffers. The requirements are not prescriptive and regulators expect each firm to identify relevant scenarios that are appropriate for its business. Scenarios involve taking an intraday profile for a relevant day, modifying the actual intraday payment profiles observed that day and modeling the impact on cash and liquidity positions.

The Intraday Stress Modeling (ISM) module utilizes the extensive data history stored within Realiti to identify relevant intraday profiles. ISM takes the actual stream of payments, receipts, and liquidity data from a baseline day, manipulates the data to reflect the required stress parameters, and creates a new stream of data reflecting how that day would have performed under stress. Different stress scenarios can be chained together to model the cumulative impact of multiple stresses.

The same front-end tools used in daily processing within Realiti also display the impact of stress scenarios (e.g., the BCBS 248 reports can be re-run to understand the new peaks and troughs under the stressed condition).

Intraday liquidity sources and uses can substantially change during times of stress. ISM allows firms to determine the impact of stress on their intraday liquidity position under various scenarios and plan accordingly, while ensuring they are meeting BCBS 248 requirements.

### Payment Control module

- Control payment flows to ensure optimal use of liquidity
- Control liquidity and react to issues in real time
- Leverage payment throttling to control risk and optimize use of intraday liquidity
- Utilize real-time intraday balances and limits to take payment control actions
- Gain real-time insight into the life cycle of payments

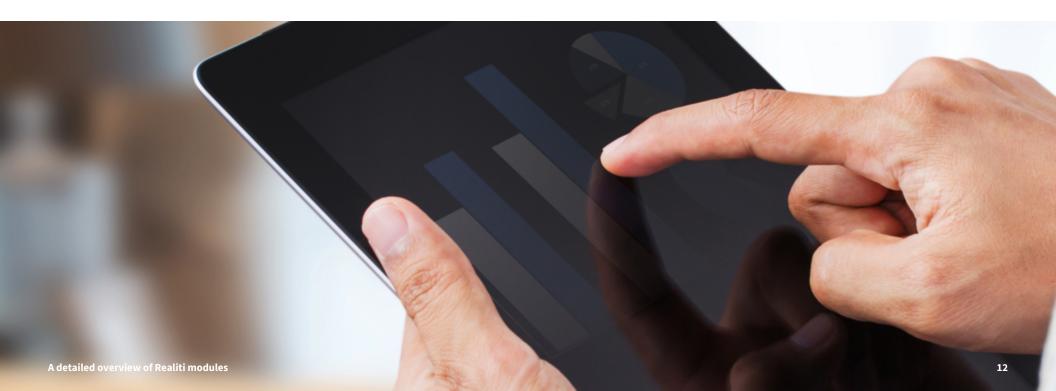
The Payment Control module extends Realiti's control capabilities across outgoing payments in both direct and indirect currencies. Payment control is an essential capability that regulators look for when assessing a firm's ability to control risk and react to issues in real time.

The module provides your organization with the ability to monitor and manage outgoing payments to optimize intraday liquidity and control counterparty risk.

Payment Control delivers insight into the life cycle of outgoing payments and provides the ability to control and smooth payment flows. Your users can identify all payments that have been released, or are scheduled for release, per value date.

With this module, your organization can implement payment throttling, where outgoing payments can be held back based upon user-defined business rules. For example, if Realiti's Intraday Liquidity Management module identifies that an intraday account balance has breached a target threshold, then throttling can be instigated and low priority payments held back to ensure the most important payments utilize any remaining, scarce intraday liquidity.

Similarly, payments to distressed counterparties or even whole markets can be flagged and hence held back until the organization is comfortable with its exposure levels to those participants. Time critical payments and other higher priority payments can be released unhindered by throttling controls.



### Intraday Balance Forecasting module

- Take advantage of an advanced technology platform
- Identify trends and forecast account balances with machine learning and AI
- Gain insight on peaks and troughs on individual and aggregated accounts
- Monitor upfront warning and alerts of potential issues around positions
- Optimize liquidity positions and liquidity control
- Manage cost reductions from improved liquidity management

Realiti is built on technology that delivers real time, advanced analytics, and data science capabilities that allow the system to consume millions of transactions per hour. The platform also contains built-in science libraries to enable rapid deployment of predictive and prescriptive analytics and machine learning.

Using this technology, and rich data that is constantly building up in Realiti through real-time liquidity management activities, you can apply analytic capabilities across stored data to predict and forecast future intraday balances profiles. With the Intraday Balance Forecasting (IBF) module, your organization can predict and understand its likely intraday liquidity position on any and all accounts for the rest of today, tomorrow, and days into the future.

Forecasting the likely position of their intraday balances gives firms early sight of peaks and troughs in anticipated liquidity across accounts. Forecasts provide early warning of potential issues and alert users when actual behavior deviates from expected profiles. This optimizes intraday liquidity positions, reduces costs, and improves the ability to manage obligations. Identifying trends from historical data to create assumptions of how the future will play out is fundamental to IBF. This can be considered as providing automation to replace or augment the instinct of experienced intraday cash and liquidity management professionals.

Utilizing IBF alongside Realiti's Intraday Liquidity Management and Funding and Forecasting modules enables your firm to proactively redress potential short positions on all accounts and demonstrate control of its liquidity.



### Inventory Monitoring and Management module

- Allow for the management of securities positions
- Enable firms to monitor real-time, position of securities globally
- Gain insight into individual securities and their value
- Provide a truly holistic valuation of a firm's total liquidity across both cash and securities
- Leverage inventory intraday matching capabilities
- Monitor transparency on fails and impact on funding
- Utilize inventory views for insight into current and future end of day projections

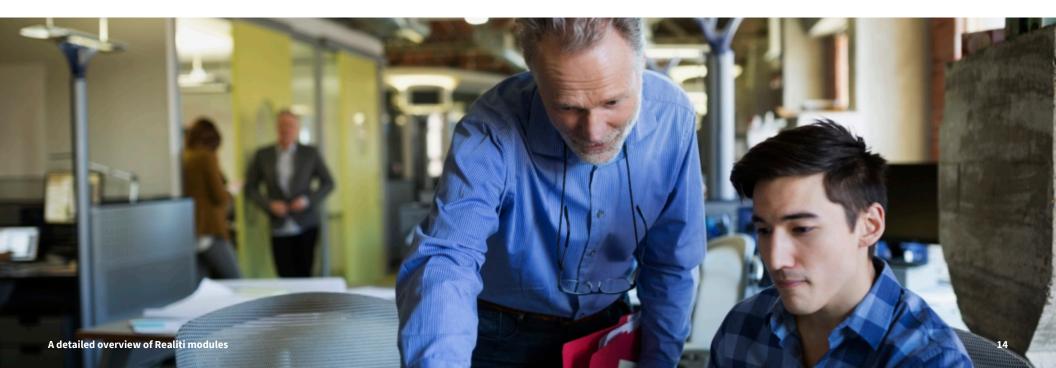
The Inventory Monitoring and Management (IMM) module is focused on the management of securities, such as equities and bonds, rather than cash.

The module also supports a range of capabilities including liquidity risk, securities position optimization, and securities processing activities organization wide.

IMM helps monitor, understand, and forecast in real time your organization's position of securities within depots held at venues globally. The solution provides insight into both the holding of individual securities and their value including the impact of haircuts. In addition, your users can also combine cash and securities value in a single view to provide holistic total liquidity value.

Similar to cash intraday matching, inventory intraday matching allows the matching of expected trades (internal) against settlement confirmations to provide visibility of real-time securities settlements.

In terms of reporting, like pivot views for cash balances, inventory views provide a view of current and future end-of-day inventory projections, plus the current intraday securities balances at various aggregation levels. These levels include bank, legal entity, venue, and depots right down to individual securities positions.



### Strategic Reporting module

- Utilize powerful AI and machine learning capabilities
- Leverage advanced analytics across the entire Realiti dataset
- Bring data together into one single view
- Access visual analytics and interactive dashboards
- Slice and dice data to uncover trends and insights and improve decision-making

Strategic Reporting is an advanced reporting module that allows you to do more with your data, unlocking the potential of Realiti's comprehensive, rich data set. With Strategic Reporting, you gain advanced analytical capabilities, allowing you to easily gather and shape data for detailed analysis to identify trends, spot stories in their data, and make better informed, near real-time business decisions.

#### How does Strategic Reporting work?

Realiti consolidates millions of cashflows per hour to ensure users have an accurate, up-to-date picture of cash balances across their settlement accounts, comparing projections to actual external balances and controlling liquidity requirements and usage in real time. The Strategic Reporting module is underpinned by a dedicated, near real-time reporting database which sits alongside the existing rich set of real-time capabilities. Data held in the Strategic Reporting database can be supplemented with your own data to provide the ultimate flexibility to run reports from a single source. Gain insights and run reports from the lowest level transactions to whole entity level aggregations across any time period. This functionality further enhances Realiti's world-leading, real-time capabilities, providing customers with the most advanced reporting application in the market. The module also supports a range of capabilities including liquidity risk, securities position optimization, and securities processing activities organization wide.

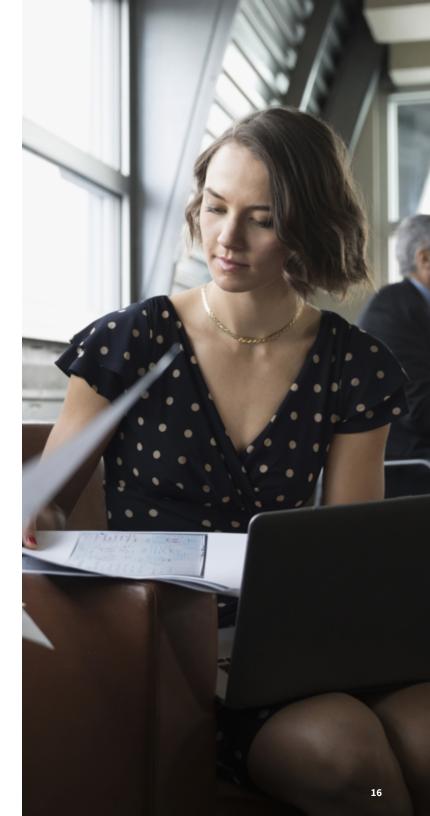


## Overcome intraday liquidity management challenges

As the regulatory environment pushes toward stricter compliance, intraday liquidity has progressively become a higher priority for banks, financial services, and global corporates. Additionally, organizations are realizing the financial and non-financial benefits of intraday liquidity.

Despite the evolving challenges to monitor external account activity, compare it to predicted activity, and then manage any discrepancies and risks that might arise, many organizations are still unprepared. If real-time intraday control is such a crucial topic, then why have so few organizations managed to achieve it? Primarily, because it's difficult—and traditional IT approaches have failed. Realiti can help you get there with sophisticated yet intuitive analytical tools for liquidity management and real-time intraday control.

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