



accenture

**NETS
REALTIME24/7
- AN IMMEDIATE
SOLUTION
FOR INSTANT
PAYMENTS**

EXECUTIVE SUMMARY

Payment systems around the world are changing fundamentally to meet the requirements of digitalisation. Customers expect ease, convenience, and security as well as rapid, instantaneous and on-demand processing of all their transactions – including payments. Instant payments, which are also referred to as immediate or real-time payments, are suitable to meet those needs, because they immediately execute a payment between the sending and receiving accounts.

The ability to move funds instantly between accounts is a key enabler for future digitalised financial services. Instant payments are already considered to be the new normal in many industries around the world. The expanding adoption of instant payments has created vast opportunities for digital service and value-added service providers that are connected to instant payments. The instant payments clearing infrastructure enables instant transactions as well as banks an opportunity to develop new competitive products and services. Therefore, banking communities should implement their instant payments infrastructure quickly and cost-efficiently. Having a solid infrastructure creates opportunities for a wide variety of uses. The opportunities are for all types of credit transfers and they can expand to other message types such as PSD2 related transactions, direct debits and to other messages related to the purchasing value chain. These features have the potential to create a solid return on investment.

A strategy to succeed, in the implementation of instant payments for financial ecosystems, is to partner with an innovative instant payments system provider that has a proven and tested solution. This ensures the implementation of a capable, validated and cost-efficient solution on the inter-bank layer and concentrates individual efforts on the competitive services layer. Nets' RealTime24/7 is a solution that is built for market flexibility and it is ideal for communities looking for futureproof, cutting-edge instant payments processing solutions.

RealTime24/7 is designed to handle high payment volumes as well as seamlessly adapt current and future functional requirements. It is easy to implement and building its interfaces is not complicated. This enables an effective migration to instant payments and allows banks to focus on the development of use cases and service offerings.

RealTime24/7 is a proven solution that has been successfully implemented and is in use in markets. Accordingly, its implementation carries a high certainty of an on-time, on-budget delivery with high operational resilience. RealTime24/7 supports ISO 20022 and it is fully aligned with the SCT Inst rulebook. Hence, RealTime24/7 is a low-risk option no matter what the future direction is for requirements in different markets. For example: In Denmark and Italy, RealTime24/7 has a track record of being the fastest implemented instant payments solution in the market.

Lufthavnen ✈️
KØBENHAVNS LUFTHAVN, KASTRUP



INSTANT PAYMENTS – AN EVOLVING MARKET FULL OF OPPORTUNITIES

Instant payments – the new normal

Instant payments – the immediate transfer and availability of funds 24/7/365 with instant status information – are increasingly gaining interest throughout the financial industry around the world and the reason is clear: Powered by digital technology, instant payments provide the speed, convenience, ease, and security that the customers today expect from any service they use.

Six crucial questions for instant payment adopters

For banks and communities looking to seize the opportunities, meet customer expectations and avoid the risks within the market, the fundamental question to implement instant payments has evolved from “if and why” to “how and when”. This crucial question can be divided into six sub-questions (see Figure 1) that are essential for the adopters of instant payments to ask themselves to create a successful implementation strategy.

1. What are the system requirements needed to provide excellent customer experiences?

In addition to the user-friendly applica-

tions for payment initiation, speed, availability, stability and security are the main factors creating excellent customer experiences in instant payments. Systems need to be accessible 24/7/365, which in practice requires 100% availability.

To achieve this, banks and communities need to ensure that the selected instant payments system fulfils availability requirements, is scalable to handle any future increase in volumes and has specific focus to counteract cybercrime.

In addition, the instant payments system needs to include customer support services, incident management and data analytics.

2. How to ensure innovation as the market is constantly developing and disruption emerges from multiple directions?

Instant payments are a strategic investment that will serve banks and their communities for years to come. Therefore, it is important to maintain a strategic focus and make planned

“TO ACHIEVE CUSTOMER REACH, THE CHOSEN INSTANT-PAYMENTS SYSTEM MUST BE INTEROPERABLE WITH OTHER INSTANT PAYMENT SYSTEMS AND ADHERE TO THE SAME TECHNICAL STANDARDS AND PROCEDURES.”

decisions as the market develops. A proven system such as RealTime24/7 allows banks to keep a strategic focus and avoid making short-term tactical decisions that could result in long-term constraints.

It is essential for banks and communities to follow local and regional market development and actively innovate new services to deploy around instant payments.

processing of individual instant payments and asynchronous processing of bulk payments need to be supported in a modern payments infrastructure.

3. How to increase the benefits of implementing a new infrastructure?

When implementing a new solution and infrastructure to handle instant payments, banks and communities are more likely to consider solutions capable of handling

HOW CAN BANKS AND COMMUNITIES SUCCEED IN THE INSTANT PAYMENT MARKET?

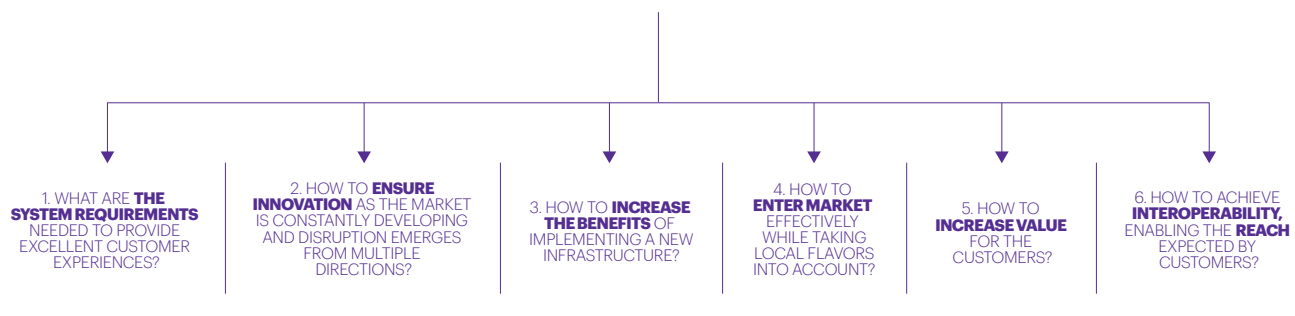


FIGURE 1: SIX CRUCIAL QUESTIONS BANKS AND COMMUNITIES NEED TO ASK THEMSELVES

Since the instant payments market is growing, banks need to keep up with the development from the very start.

Additionally, there are plenty of opportunities around both developing front-end applications (common community or bank’s own) and cross-selling, as well as supporting other digital banking products (e.g. mortgage process digitalisation). Banks should also pay close attention to the PSD2 as well as Open Banking and understand the important role of instant payments when they become available via APIs.

To achieve these goals, the selected instant payments vendor must have a flexible system providing application programming interfaces (APIs). This is mandatory for building connections between banks as well as for seizing opportunities in the market.

Even though a large proportion of payments will be instant, banks and corporations still have a need for processing bulk payments such as payroll, invoice processing, standing orders, and direct debits. Therefore, both synchronous

more than just instant payments. Increasing the usage of e.g. “regular” credit transfers, direct debits or transactions related to the PSD2 not only increases usage of the solution and infrastructure itself, but also enables significant savings as a result of merging services.

The flexibility of a solution to handle other message types, including both old system and future messages, in addition to instant payments messages is important in the long run – just as important as partnering with a provider with a clear strategy of expanding the usage areas. Therefore, the message handling capabilities are an important selection criteria for banks and communities when looking into providers of instant payments solutions.

4. How to enter market effectively while taking local flavors into account?






Any bank or community entering the instant payments market should carefully analyse time-to-market, costs and benefits of different implementation options to make a successful market entry.






The importance of early market launch

INSTANT PAYMENTS – AN EVOLVING MARKET FULL OF OPPORTUNITIES

with an efficient go-to-market strategy cannot be emphasised enough. The characteristics and requirements of the local market should be taken into consideration when designing the service offering for the market.

An instant payments vendor that offers and supports value-added services as well as continuously develops them as the market changes, is vital for providing value for end users.

-  **AVAILABILITY:**
CONTINUOUS AVAILABILITY 24 X 7 X 365
-  **IMMEDIACY:**
FUNDS AVAILABLE IN RECIPIENT'S ACCOUNT IN (NEAR) REAL TIME
-  **IRREVOCABILITY:**
PAYMENT ONCE SENT CANNOT BE REVOKED
-  **CERTAINTY:**
NEAR REAL TIME NOTIFICATION TO PAYER AND PAYEE ON FINAL STATUS OF THE PAYMENT
-  **SECURITY:**
SECURITY, INTEGRITY, AND FRAUD RESISTANCE ACROSS THE VALUE CHAIN

-  **OMNI CHANNEL:**
DEVICE AGNOSTIC, MULTI PARTY ACCESS
-  **FLEXIBILITY:**
ADAPT TO FUTURE CUSTOMER NEEDS AND COMPATIBLE WITH INNOVATIONS IN PAYMENT
-  **STABILITY:**
PROPER RESOLUTION SCENARIOS IN SYSTEM, E.G. A TIMEOUT FUNCTIONALITY
-  **SIMPLICITY:**
CASHLESS CASH EXPERIENCE, SIMPLE TO HANDLE, USAGE OF ALIASES
-  **TRANSPARENCY:**
SECURITY, INTEGRITY, AND FRAUD RESISTANCE ACROSS THE VALUE CHAIN

DEFINITION OF INSTANT PAYMENTS PER ERPB (EURO RETAIL PAYMENTS BOARD)

"ELECTRONIC RETAIL PAYMENT SOLUTIONS AVAILABLE 24/7/365 --- RESULTING IN THE IMMEDIATE OR CLOSE-TO-IMMEDIATE INTERBANK CLEARING OF THE TRANSACTION AND CREDITING OF THE PAYEE'S ACCOUNT WITH CONFIRMATION TO THE PAYER --- IRRESPECTIVE OF THE UNDERLYING PAYMENT INSTRUMENT USED --- AND OF THE UNDERLYING ARRANGEMENTS FOR CLEARING AND SETTLEMENT"

FIGURE 2: CHARACTERISTICS* AND ERPB DEFINITION OF INSTANT PAYMENTS
(*COMMON CHARACTERISTICS OF INSTANT PAYMENTS BASED ON ACCENTURE RESEARCH)

Selecting a tried and tested vendor with previous experience of fast market launches is crucial for success. Additionally, the selected instant payments system needs to be flexible in order to configure it to meet the local market requirements.

From an architectural point of view, a layered architecture for instant payments is best practice for flexibility, simplicity and openness. The layers are: overlay services, scheme rules, connectivity, clearing and settlement.

5. How to increase value for the customers?

Payments form a wide ecosystem and offer opportunities to increase value for customers with innovative and compelling services and products.

The most important value-added services include e.g. tokenisation services and P2P applications. Insights regarding development can be gained by collaborating with other members of the ecosystem.

6. How to achieve interoperability, enabling the reach expected by customers?

To be able to satisfy customer need of ubiquity and reach, an instant payments system must be interoperable across the communities of banks servicing customers and their counterparties. These communities are domestic at first, but to an increasing extent becoming more regional (e.g. Europe), where consumers and corporations are transacting more and more across borders.

Even though the number of cross-border transactions will be limited in the beginning, the ability to process them is a vital component for future customer needs.

To achieve customer reach, the selected instant payments system needs to be interoperable with other instant payments systems as well as follow the same technical standards, message exchange models and procedures (e.g. ISO 20022).

FINLAND SIIRTO INTRODUCED IN EARLY 2017. INITIAL FOCUS IS ON LOW VALUE P2P PAYMENTS.

SWEDEN SWISH INTRODUCED IN 2012. PAYMENTS IN REAL-TIME (BIR) FOR LOW AND MEDIUM VALUE PAYMENTS.

DENMARK REALTIME24/7 LAUNCHED BY NETS IN 2014. ACCOUNT TO ACCOUNT REAL-TIME TRANSFERS UP TO 500,000 DKK.

UK FASTER PAYMENTS SCHEME (FPS) INTRODUCED IN 2008. HANDLES LOW AND MEDIUM VALUE TRANSACTIONS.

POLAND EXPRESS ELIXIR INTRODUCED IN 2012. PRIMARY FOCUSES ON LOW VALUE MOBILE PAYMENTS.

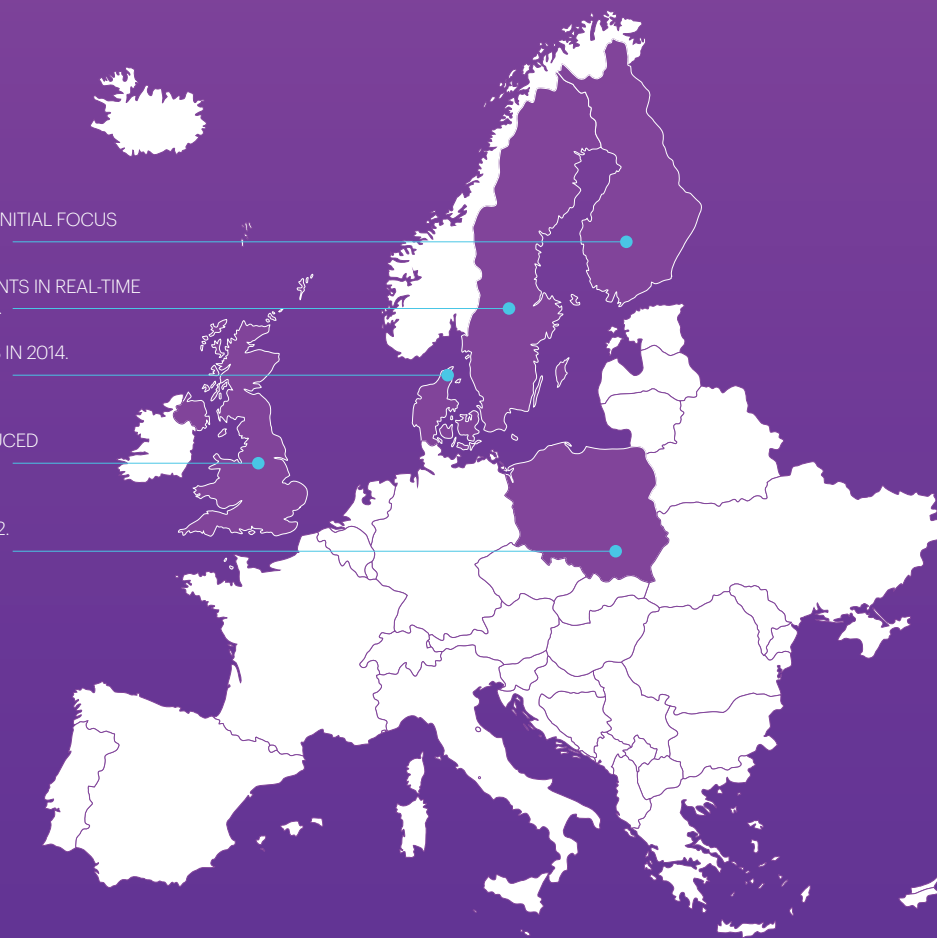


FIGURE 3: INSTANT PAYMENTS SYSTEMS LIVE IN EUROPE (AS PER ERPB DEFINITION OF INSTANT PAYMENT)

MARKET SITUATION OF INSTANT PAYMENTS

Domestic instant payments - a reality in many European countries

In the European market, an instant payments system that follows the ERPB definition (see Figure 2) has been launched in five countries (situation in July 2017, see Figure 3). Additionally, such systems are currently in the planning or development phase in several other countries.

As an example of the latest developments of instant payments, Italy has chosen to implement Nets RealTime24/7 and the ball is also moving fast in the Netherlands, Belgium, France, Spain, Portugal as well as several other countries.

There are also European-wide developments from EBA Clearing and ECB for clearing and the settlement of instant payments. Also, note that the new, modern, ISO 20022 -based instant payments systems will be interoperable with domestic services and future European developments, when selecting an instant

payments system. Instant payments are likely to gain momentum first on a domestic level with the European systems complementing the overall market for cross-border payments. The benefits of a fast market launch can be achieved by selecting a modern instant payments system that can be deployed domestically and is interoperable with future European centralised systems.

Implementation methods vary

Most of the differences between instant payments systems appear in the clearing and settlement layers, as the approaches differ from scheme to scheme.

The inter-bank clearing options in instant payments schemes are bilateral or central clearing, of which central clearing is by far the most common. Settlement between banks is typically executed by using a real-time gross settlement (RTGS) system, with intraday liquidity management - a key concern for banks and central banks.

There are also differences in the underlying payment instruments used. Compared to cards or hybrid solutions using cards; account-to-account based instant payments systems have several advantages. The advantages include lower processing costs due to fewer parties in the value chain. In addition, these systems are more secure, since the customers are interacting directly with their own bank.

ISO 20022 provides guidelines for implementation

The recently developed instant payments schemes use the ISO 20022 Financial Services - Universal financial industry message scheme. ISO 20022 uses a common data dictionary and provides a way to improve payments efficiency. The standard is used across financial market infrastructures and is gaining attention in domestic markets, particularly for the next generation of payments systems.

HOW DOES REALTIME24/7 MAKE A DIFFERENCE

Nets' RealTime24/7 is an ISO 20022 based, state-of-the-art instant payments clearing system. It is a modern and advanced solution able to operate globally providing a unique value proposition for its adopters (see Figure 4).

Nets provides a broad portfolio to supplement instant payments

Nets has a broad portfolio of payment products in addition to RealTime24/7 clearing. In the value-added services layer, Nets provides a wide selection of value-added services such as tokenisation services, wallets, receipts archiving and white-label mobile applications to increase the business value of the instant payment system.

The value-added services are easily configurable to suit specific regional or local requirements.

RealTime24/7 - a solution for all your payment needs

RealTime24/7 is an ISO 20022 based centralised clearing solution for instant payments. It provides adopters with the needed functionality to make instant

payments and connected services competitive in the market.

RealTime24/7 functionalities are not limited to instant payments – it is designed to handle all types of credit transfers, be it high value, low value, domestic or cross-border, for example. The ability of the solution to replace existing legacy systems creates opportunities for significant reductions in the total cost of processing credit transfers.

Nets has equipped RealTime24/7 with innovative and effective overlay services, such as PSD2-CPAR (customer payment activation request), creation of user groups with different SLAs and data containers.

The system has a layered architecture. Consequently, it is easy to connect to new services and ecosystems via APIs, enabling connected participants to develop specific competitive add-ons, which deliver value for the end customers.

RealTime24/7 has the flexibility to support both deferred net settlement and

“REALTIME 24/7 IS THE FASTEST IMPLEMENTED INSTANT PAYMENT SOLUTION IN THE MARKET.”

real-time settlement. This gives banks and communities using RealTime24/7 the ability to choose the best combination of both settlement mechanisms.

RealTime24/7 also provides a bulking module which handles files containing many transactions. Bulks of any size can be sent to RealTime24/7, where the system processes them via a dedicated interface and de-bulks/re-bulks the files according to requirements.

In addition, Nets has alliance partners that can provide value-added or

Nets has a clear strategy and an extensive roadmap outlining the continuous development of solution modules as well as offering new overlay or value added services. This helps adopters tailor the solution to their needs, while keeping them at the forefront of their markets, and allowing them to make the most of their investments.

RealTime24/7 as a software package or a fully managed service

RealTime24/7 is available as either a managed service or a software solution, to be implemented by the customer. Regardless of the implementation choice,



FIGURE 4: REALTIME24/7 VALUE PROPOSITION

overlay services and integration services. All alliance partners are certified as fully interoperable with RealTime24/7 and integrated through clearly defined open APIs.

Proven solution built for purpose

Nets has been developing and operating mission critical payment systems, both batch based as well as real-time, for more than five decades.

RealTime24/7 has a long and recognised track record with instant payments – the solution has been successful in the Danish market for more than two years without any downtime.

Continuous development to be relevant in the market

RealTime24/7 comes with many dedicated modules to complement the core solution. These modules include an advanced Liquidity Module, which makes it possible to minimise liquidity needs. Another example is the Bulking module, which lets adopters accept existing payment files in the instant payments solution.

Nets provides both 24/7/365 operational and business support to its clients throughout the whole implementation process and after go-live.

An interoperable solution able to co-operate with other players

Interoperability and reach are achieved by adhering to standards. RealTime24/7 is compliant with regulation and industry standards such as TARGET2, EPC SCT Inst rule-book, ISO 20022, and the EACHA interoperability framework. Thus, RealTime24/7 is a low-risk option, regardless of the future combination of standards adopted in each market.

RealTime24/7 can connect to multiple clearing and settlement mechanisms (CSMs) – domestic or cross-border – at the same time.

Availability and scalability

RealTime24/7 handles all types of payment transactions as well as other types of messages. The system is designed for easy scalability, and at the same time, for maintaining high availability.

HOW DOES A REALTIME24/7 MAKE A DIFFERENCE

Since the go-live in Denmark in 2014, RealTime24/7 has proved its operational excellence without experiencing any service interruptions.

The solution is tested to handle more than 10,000 transactions per second (TPS), and the monthly transaction growth in Denmark has been 4% on average.

Already two years after the go-live in Denmark, Nets operated at the rate of 28 transactions per capita per year, while UK Faster Payments System after nine years operated 25 transactions per capita in 2016.

Fast time-to-market enabled by the modular structure

RealTime24/7 is flexible and highly configurable. It is also available with a wide range of dedicated modules. The modules include, for example, advanced liquidity management, report and statistics services, and user interfaces. The modularity of RealTime24/7 shortens time-to-market significantly compared to implementation of individual, separately configured solutions either built for pur-

pose or bought from several vendors.

Modularity also enables adopting RealTime24/7 in an incremental manner – it is possible to add new functionalities after the initial go-live as required. Furthermore, RealTime24/7 offers a high degree of cost-effectiveness, because clients may select the functional modules required – and only pay for the selected modules.

RealTime24/7 is an existing and well-established solution, which is fast to implement. In Denmark, the implementation was delivered within 14 months from the start of the requirement phase until launch. The latest implementation in Italy was delivered within nine months. RealTime24/7 is the fastest implemented instant payments solution in the market.

CLIENT SUCCESS STORY OF REALTIME24/7

Nets' experience over the last years in Europe has proven that their solution is competitive both functionally and commercially. Below, Nets' client ICBPI (Istituto Centrale Banche Popolari Italiane) shares their experiences of RealTime24/7.

ICBPI and Nets entered an agreement in June 2016 for the delivery of an SCT Inst compliant instant payment solution. The managed service solution is operated from Nets' datacentres in Norway. It provides ICBPI and Italian banks with a comprehensive solution with features such as advanced liquidity management, differentiated SLA per message type, and full reach within the SEPA area. Thanks to the adoption of RealTime24/7, Italian customers will get a fast and convenient access to Instant Payments services.

"When we were considering finding a provider of the instant payments solution, we quickly realised that there were many providers with somewhat similar solutions. However, only few of them had a proven system in operation. What is more, there was only one service provider – Nets – who clearly

demonstrated a clear vision for the future innovative capabilities of their offering. Nets has clearly shown this with their RealTime24/7 Instant Payments solution", comments Roberto Catanzaro, Director at ICBPI. He continues: "At ICBPI, we believe that staying relevant to our customers depends on our ability to continuously make sure that our services match the expectations of the end-users – be it consumers, merchants, corporations, or government".

Having recently approved the delivery of the solution, ICBPI and Nets are now working to expand the capabilities with new and innovative services. "Already now, Nets has a wide range of overlay services and value-added services to choose among. Still, the true value of partnering with Nets is their ability to understand our market and to be part of our strategic processes to identify the opportunities in Italy", says Roberto. He adds: "I am especially looking forward to exploring the possibilities that are based on the PSD2. In this area, Nets' deep understanding of the payments arena – combined with their innovation lab activities – are generating some exciting new business ideas on top of the instant payments infrastructure".



Roberto Catanzaro
Director at ICBPI

"THE TRUE VALUE OF PARTNERING WITH NETS IS THEIR ABILITY TO UNDERSTAND OUR MARKET AND TO BE PART OF OUR STRATEGIC PROCESSES TO IDENTIFY THE OPPORTUNITIES IN ITALY."

JEREMY LIGHT COMMENTS ON REALTIME24/7

Five characteristics in particular make RealTime24/7 a serious player and a safe choice for instant payments infrastructure:

- ⊙ Its layered architecture, designed specifically for instant payments, using modern technologies and messaging standards, give it the flexibility required in today's fast changing payments landscape, and give it market relevance that will endure for many years to come
- ⊙ Its ability to support both real-time settlement and deferred net settlement, and the ability to operate them both side-by-side for different transaction types and markets – this settlement flexibility is essential for future cross-border interoperability and for optimising liquidity management as markets develop and grow
- ⊙ Its scalability and ability to handle enormous transaction volumes – as instant payments take hold globally, and as they grow exponentially to levels far beyond those seen today in traditional payments, RealTime24/7 will take the strain with ease and resilience

- ⊙ Its support for the full payment value chain including non-urgent and batch payments, other financial messaging, PSD2 and a wide range of value added payment services
- ⊙ The cost efficiency and speed at which it can be delivered, the fastest in the market as seen in Denmark and Italy, also demonstrating its ability to de-risk systemically important payment infrastructure implementations



Jeremy Light
Managing Director
Accenture Payment Services
Europe, Africa and Latin America

APPENDIX

NETS AS

A COMPANY

Nets as a company

Nets is a European provider of payment and card services. It is the largest payments processor in the Nordics and second largest in Europe. Nets is a central hub within the European payments ecosystem, offering payment and information systems, acquiring processing, merchant POS solutions and electronic identity solutions. Nets operates across the entire payments value chain from capturing and authorizing to processing, clearing, and settling the payment.

Nets has its head office in Copenhagen, Denmark and a strong footprint with a total of around 2,500 employees in its 7 offices. Nets has a strong track record of being the backbone of European payments ecosystem for more than five decades.

Currently, Nets has a revenue of over DKK 7.4 billion (€0.99 billion/\$1.05 billion). Annually, 7.3 billion transactions are processed by Nets, and to date, more than 8.1 million digital identities have been issued by the company. Nets partners with over 300,000 merchants, 30,000 online merchants, 240 banks and 240,000 corporates. In addition,

there are 35 million cards operated on Nets' platforms.

Description of RealTime24/7

To answer the demands of instant payments market, Nets has developed an instant payments system called RealTime24/7. Its functionalities are a strong fit with the requirements of both financial market infrastructures and financial institutions.

RealTime24/7 is a core system with functionality to handle real-time transactions, a scheme layer handling business transactions, and the overlay portfolio of "plug and play" applications. RealTime24/7 is based on a modern technical architecture supporting scale-out capabilities. The system uses a database cluster, which guarantees full data consistency. RealTime24/7 is a flexible and highly configurable solution, available with a wide range of dedicated modules to benefit adopters. RealTime24/7 uses flexible connectivity options and works with industry standard components, such as instant payments gateways.

The application tier is designed as a highly distributed solution to ease

scaling and to support extensibility and high fault tolerance. The gateway acts as a distributor for load across the RealTime24/7 Clearing applications. The Clearing application handles the single credit transfer processing flow as Straight Through Processing (STP). The application is designed for low latency and fast performance.

The RealTime24/7 Clearing and Settlement applications are clustered. The STP flow is decoupled from the settlement mechanism. RealTime24/7 Clearing sends settlement requests using the internal clustered message bus, which is handled by the Settlement Core.

RealTime24/7 is created to handle instant messaging and designed to follow the requirements of a mission critical system.

Learn more about RealTime24/7: <https://www.nets.eu/solutions/InstantPayments>

"REALTIME 24/7
ADOPTERS WILL GET
THE FULL ADVANTAGE
OF NETS' BROAD
PAYMENT AND CARD
SERVICE PORTFOLIO."

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ABOUT ACCENTURE

Accenture is a leading global professional services company, providing a broad range of services and solutions in strategy, consulting, digital, technology and operations. Combining unmatched experience and specialized skills across more than 40 industries and all business functions—underpinned by the world's largest delivery network—Accenture works at the intersection of business and technology to help clients improve their performance and create sustainable value for their stakeholders. With approximately 401,000 people serving clients in more than 120 countries, Accenture drives innovation to improve the way the world works and lives. Visit us at www.accenture.com.

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