

A close-up photograph of a hand interacting with a payment terminal. The hand is pressing a button on the terminal's keypad. A Visa credit card is partially inserted into the terminal's card reader. The terminal is a small, grey and black device with a keypad and a small screen. The background is a blurred indoor setting.

nets:

PAYMENT TERMINAL SOFTWARE - VIKING

Release version 06.1.1: 03.09.2018

Highlights:

In this release Nets introduces:

- New hardware models on the iSMP range
- Adding Contactless support for several transaction types and features that are already supported for chip.
- Reduced offline time handling

About the release:

SW version 06.1.1

Test version 47.24

This release is for

- IUP250 + IUR250, iUC180B+iUR250, iUP250+iUR250+iUC150B
- ICT250E, ICT250EG,
- IWL250G, IWL250B, iWL255G(3G terminal)
- IPP350
- iCM122, iSMP Companion terminals

Please note that IWL220G and ICT220E, ICT220EG is not supported for this Release.

Terminal languages:

1. Both merchant and cardholder: Norwegian, Swedish, Danish, Finnish, English, German, Hungarian, Estonian, Polish and Dutch
2. Only cardholder language: French, Spanish

Availability

Contact your local sales support team or Account Manager for more information about this release.

New functionality in the Release:

Mobile integrated iSMP 4 Companion

Our successor to the iSMP Companion and iSMP i5 is here and it has taken the learnings from our first mobile integrated terminals and incorporated them into a new and improved design. It is now lighter, smaller, uses less power, has a bigger display and an easy to swap battery.

The iSMP4 is designed to operate in medium to high volume points of sale where mobility and integration is needed. It facilitates easy attachment to a variety of 8" tablets in order to further enhance mobility and single-hand usage for easy usage and good gripping points. In addition, it has a built in 1D and 2D barcode reader with laser-aiming technology which supports the most common barcode technologies. It can be used to reliably scan anything from loyalty cards, coupons, barcodes and QR-codes.

Using standard Nets integration protocol, it is a plug-and-play replacement for our existing Bluetooth terminals and it is simple to take into use for existing integrators. It supports pairing with virtually any iOS, Android or Windows based device making it a flexible product to integrate with. The iSMP4 uses standard Nets payment software and can therefore offer all our services and payment methods that our stationary terminals do.

This is a PCI PTS 4.x terminal, and is offered in two different models, one including barcode scanner and one without barcode scanner.

WIFI support has been added in Host communication options and Ethernet option has been added to ECR port parameter. The Wi-Fi setup menu is currently available through Telium manager only.

In comparison with previous release, both Bluetooth and Wi-Fi symbols in terminal header can be seen.

iSMP v3

iSMP v3 terminal is compatible with iPhone 6 and integrated with a 1D/2D barcode reader. This is a PCI PTS 4.x terminal, and an extension to our iSMP i5 model.

Note that the iSMP3 can only be integrated with iPhone using lightning USB connector.

For more information please contact your Account Manager since this model will only be offered in specific customer projects.

Contactless: Single tap for VAS request and financial transaction

In previous releases double tap was required on the terminal for contactless cards for VAS request and financial transactions. This feature has been reduced from double tap to single tap.

Single tap functionality will work with both types of VAS request, TLD as well as JSON (Card info or Digital asset).

To Support this functionality via Json two new tags have been added in JSON, ph_amount and txntype.

where ph_amount is Placeholder amount indicator:

0 - placeholder amount < CVM limit

1 - placeholder amount > CVM limit (default case)

and txntype is Transaction Type:

Valid values of Transaction type is

30 (EFT_AUTHORISATION)

34 (PRE_AUTHORISATION)

31 (RETURN_OF_GOODS)

33 (PURCHASE_CASHBACK)

39 (CASH_WITHDRAWAL)

Similarly, to Support this functionality via TLD, two new tags have been added in TLD, 3016 and 3017.

Where 3016 tag is Placeholder amount indicator:

3016 US 0001 US 1 RS

0 - placeholder amount < CVM limit

1 - placeholder amount > CVM limit (default case)

and 3017 tag is Transaction type:

3017 US 0002 US 30 RS

Valid values of Transaction type are:

30 (EFT_AUTHORISATION)

34 (PRE_AUTHORISATION)

31 (RETURN_OF_GOODS)

33 (PURCHASE_CASHBACK)

39 (CASH_WITHDRAWAL)

These tags can be sent with GCI as well as Card Info.

Card Info Json:

```
{
  "cardinfo":{
    "ver":"1.02",
    "issid":"?",
    "loyaltyinfo2":"?",
    "aid":"?",
    "ph_amount":"1",
    "txntype":"30"
  }
}
```

GCI TLD Request:

2000 US 0003 US 001 RS 2002 US 0003 US 001 RS 2001 US 0000 US RS 3016 US 0001 US 1 RS 3017 US 0002 US 30 RS

Note: In case new tags for single tap are not sent in VAS, Terminal will consider it with default values i.e. "ph_amount":"1" and "txntype":"30".

Terminal will go for single tap for below conditions:

- 1) It is possible to initiate single tap transaction using GCI request, card Info request or Digital asset request.
- 2) Single tap Contactless transaction can proceed with Tips, DCC and Surcharge.
- 3) This feature is not applicable for iUC180B terminal.
- 4) Single Tap transactions are online only.
- 5) It is possible to use placeholder amount below CVM limit (i.e. "ph_amount":"0")

If the financial amount is below CVM then, no CVM should be asked for the transaction. In this case transaction is processed with single tap.

If the financial amount is above CVM then, the transaction should proceed as double tap.

- 6) It is possible to use placeholder amount above CVM limit (i.e. "ph_amount":"1")

If the financial amount is below CVM then, no CVM should be asked for the transaction. In this case transaction is processed with single tap.

If the financial amount is above CVM then, the transaction should proceed available CVM of the Card. In this case transaction is processed with single tap.

- 7) In case of NO CVM / Signature CVM card, If the transaction is proceeded as single tap then there shall be separate confirmation of the final amount when it was not displayed during tapping

- 8) In case of PIN based CVM card, If the transaction is proceeded as single tap then there shall not be separate confirmation of the final amount when it was not displayed during tapping.

Interaction with other Features:

IFR (MIF):

When the card application does not change with MIF priority between the VAS request and financial transaction, Terminal will go as single contactless tap transaction.

When the card application changes with MIF priority between the VAS request and financial transaction, Terminal will go for double contactless card tap transaction.

Exclude Issuer:

When exclude issuer request (successful) is performed for VAS, transaction will go to double tap.

When exclude issuer request (successful) is performed for transfer amount, transaction will go to double tap.

Split Acquiring:

When the TID changes or does not change in any case between the VAS request and financial transaction, Terminal will go as single contactless tap transaction.

Dynamic Currency Conversion:

DCC will be offered in case single tap transaction provided conditions for contactless DCC are satisfied.

Limitations:

Terminal will go for double tap for below conditions.

- 1) Terminal is pure NoCvm Terminal.
- 2) Expected Transaction type field has no valid value
- 3) Placeholder amount value is other than 1(Above CVM) & 0 (Below CVM)
- 4) Expected Transaction type in JSON\TLD and Transaction type in transfer amount is not same.
- 5) If Amount in transfer amount is greater than the contactless limit, terminal will switch to contact.
- 6) SingleTap is not supported for Finnish Profile.
- 7) MultiTerminal (CardInfo with TID1 & TA with TID 2)
- 8) If ph_amount" is 0 in JSON/TLD & Amount in TransferAmount is above CVM limit.
- 9) If Single tap is disabled for that Issuer at host.
- 10) If a Mobile is tapped on the terminal
- 11) If the terminal is Offline (at time of VAS or Transfer amount), the transaction will proceed as double tap.
- 12) If the GCI response is offline, the transaction will proceed as double tap.
- 12) If the financial transaction (except online only transaction e.g. Pre-auth, cash etc.) response is offline/ Host declined/ Not able to connect to host, the transaction will proceed as double tap.

Transaction flow:

- 1) Send Card Info/ GCI in VAS request along with ph_amount and txntype tags from Baxi.
 - 2) Tap the contactless card
 - 3) Observe that the VAS response is received in Baxi.
 - 4) Send financial transaction (same as txntype mentioned in VAS request) from Baxi.
 - 5) Observe that the terminal proceeds with the transaction without the need of double Contactless card tap.
- Note: There will be mandatory amount confirmation or PIN entry screen when transaction is processed with single tap.

FAQ:

1. As an ECR partner, what changes do I have to implement, If the most transactions are of small amounts (Amount < CVM limit). For businesses like Cafes, Parking etc.
Recommendation: Configure ph_amount tag or TLD tag specified for placeholder amount setting (also known as dummy amount setting) to "0", while using VAS requests. The reason being is that we have observed greater acceptance of Contactless transactions by the cards for small value transaction amounts.
2. As an ECR partner, what changes do I have to implement, if most transactions are of large amounts (Amount >= CVM limit). For businesses like retail stores etc.
Recommendation: Configure ph_amount tag TLD tag specified for placeholder amount setting (placeholder amount, also known as dummy amount setting) to "1", while using VAS requests. The reason being is that the terminal prepares for CVM method (cardholder verification method) in advance, therefore saving the overall transaction time.
3. As an ECR partner, can't we use Single tap feature without doing any implementation in ECR?

Single tap can be used with existing setup's in the field. In the given case, terminal will use defaults for ph_amount tag as "1" (Above CVM limit) and transaction type as "30" (Purchase) to execute VAS (Value added service) requests. If the final transaction amount occurs below the CVM limit, terminal handles the scenario smartly and completes the payment by just taking the confirmation from the cardholder on the final amount. If the transaction type received is something else than Purchase, terminal will abort the single tap transaction flow and prompt to present the card again.

Contactless: Exclude issuer

Exclude issuer for Contactless is implemented to work similar as chip cards.

With exclude issuer feature it is possible to execute VAS request on one issuer and Transfer amount request on another issuer in the same transaction.

The exclude issuer tag for JSON is '"exclude": <issuer ID>' and for TLD is '2010 US 0002 US <issuer ID> RS'.

Contactless: IFR (Interchange Fee Regulation) and co-branded cards

An EU regulation gives merchants the right to define which part of a combined payment card that is to be prioritised when customers pay by card. Currently, payment terminals are automatically prioritising the domestic card schemes; Dankort in Denmark and BankAxept in Norway. The EU regulation gives the card holder the final decision authority, which implies that the card holder can override the merchant's card priority settings.

The solution

Below is a description on how we will enable the card holder to select application on Viking terminals. The basic principle of the solution is that the card holder indicates that he wants to perform application selection before the card is presented. This is done by pressing the yellow CLEAR-button on the terminal.

The solution is made for co-branded BankAxept cards and co-branded Dankort cards.

- The priority can be changed by a local parameter in the terminal:
 - Parameter name: IFR priority = <domestic>, <international>, <none>.
This parameter will be visible for Norwegian and Danish terminal configurations.
 - The existing priority <domestic> will be default.

The priority can also be set from the ECR for integrated terminals. This enables the merchant to prioritise based on input from the card holder.

From ECR requests:

1. The IFR priority sent as a part of ECR request applies only to that particular transaction session only.
2. IFR priority values can be defined as:

IFR parameter value	Description
1	Domestic
2	International
3	None
Any other value	Ignored by the terminal

Transfer amount:

Add this JSON data which includes IFR priority parameter as part of optional data field in transfer amount.

```
{"od":{"ver":"1.01","nets":{"ver":"1.0","ch13":{"ver":"1.0","ta":{"ver":"1.0","o":{"ver":"1.02","ifr":2}}}}}}
```

The card holder is able to overrule the automatic selection:

- The application's preferred card scheme will be displayed during PIN entry to ensure that the card holder can see which application that has been selected.
- The card holder can disable the automatic selection by pushing the yellow CLEAR-button when the card is requested.
- The functionality is available for all terminals except the unattended module iUC180B. This module does not support PIN entry or application selection.

A transaction has to be aborted and initiated again if the card holder sees that the application at PIN entry is not in line with what he wants. This is expected to be a seldom issue.

Note that the terminal does not display any guidance text informing about the yellow CLEAR-button's functionality. The merchants should ensure that their employees are informed about the yellow CLEAR-button's functionality and are able to guide card holders. It is also assumed that the card holders that want to perform the selection will rapidly learn how to enable it.

Note: If IFR parameter is set to NONE, the contactless transaction will be completed as double tap. The first tap for preparing the common application candidates list and then second tap to read the application data selected by the cardholder to complete the transaction.

IFR parameter setting will apply for both chip and contactless.

Contactless: Pre-Auth

Pre-Auth is now supported also for Contactless cards. CVM is a mandatory requirement.

For Finnish terminal configuration pre-auth transactions will always give switch interface as the transaction to chip and PIN.

Contactless: Quasi Cash

Quasi Cash are financial instruments that are directly convertible to cash but are not legal tender in the country where they are received. Examples include traveler's checks, foreign currency, money orders (which are similar to paper checks, but may be issued by non-financial institutions such as post offices), stored value loads, gambling chips, precious metals, savings bonds, and money transfers.

This functionality addresses merchants where the acquirer expects support for Quasi Cash functionality.

In this release we have also included support for Contactless.

Please contact your acquirer for an agreement.

For Finnish terminal configuration Quasi Cash transactions will always give switch interface to chip and PIN. Quasi Cash transactions are only supported for attended terminals.

Contactless: Cash Advance (Bank branch)

Cash advance transaction type is now supported for Contactless cards on bank branch terminals. CVM is a mandatory requirement and NO CVM only cards will be offered a switch interface to chip and PIN.

This transaction type is also supported for BankAxept cards.

Terminals that are setup with Finnish terminal configuration is not supported.

Contactless: DCC

DCC (Dynamic Currency Conversation) can now also be offer to cardholder on Contactless where the cardholder can choose to pay in their own currency or domestic.

Please note that DCC selection will not be offered cardholder if amount is below CVM limit.

Contactless: Cashback

Cashback transaction type is now supported for Contactless cards. CVM is a mandatory requirement – PIN is required.

This transaction type is also supported for BankAxept cards.

NO CVM only cards will be offered switch interface to chip and PIN.

Reduced offline time handling

- Second try message support has been removed. Note that each try towards host has a timeout value taken from issuer dataset. The default host try timer was 45 seconds, meaning to get an offline transaction accepted was approximately taking 90 seconds.
The default timeout towards host has been changed from 45 seconds to 30 seconds.
- TCP IP socket timer is reduced from 10 seconds to 5 seconds.
If the host is down, now the terminal will wait only for 5 seconds to establish a socket, otherwise terminal will try to accept transaction as an offline.
- Physical link is down.
Consider a situation if network is down or ethernet is not connected to terminal, terminal detects and understands the case and it will directly attempt to accept transaction as an offline without wasting any time.
- BankAxept timer towards host has been reduced from 45 seconds to 10 seconds.

New hardware model: iUP250LE (Low Energy)

This low energy model uses up to less than 2mA for the full configuration and has a reduced wake up time.

It is easy to identify IUP250LE by its black colour panel as also shown in the picture below. Configuration is the same as the iUP250 model.



No dependencies towards Baxi version but we always recommend using the latest Baxi versions.

New Nets logo with Contactless indicator

The new Nets logo in idle screen has been implemented with a Contactless indicator. This is only implemented for colour screen terminals.



Improvements

Some security adjustment has been made for Service card and Merchant Card.