TIONet - Native Loyalty Protocol Specification v1.0

cument Information	
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ange Log		
.	Date	Change Summary
0	04/Nov/2014	Initial version.

ntents

erview

oduction

specification is intended to document ATIONet's Native Protocol messaging format and related features required for the systems applying for integration with ATIONet. The following ons provide descriptions of the messages themselves, the expected behaviour for each supported transaction type and a common ground for the functionality of each relevant item.

initions

t

nputer system that is accessed by a user working at a remote location. In this document, Host is always the ATIONet Host.

minal

ectronic merchant card processing device responsible for transaction capture, display output to the cashier and/or to the cardholder on screen and/or print format.

ntroller

ent system that can send or receive data to and from ATIONet's Host. A Controller controls or includes one or more terminal. When there is only one Terminal connected to a Controller, nal and Controller are equivalent.

EQ

action Request.

ESP

action Response.

IOnet Integration Documentation Scope

-party systems integrate with ATIOnet via a set of APIs (Application Programming Interfaces). Each ATIOnet's API is described on a separate Protocol Specification. The complete mentation of ATIOnet API's is comprised of:

Onet Native Transactions Protocol Specification:

rs financial transactions for transaction capture systems (payment terminals, site controllers and point of sale systems), including sales and refunds.

Onet Administrative Transactions Protocol Specification:

ribes a set of functions complementing the transaction-capture business, for example Batch or Shift Close. These functions enhance the capabilities of the integration but their mentation is not mandatory.

Onet Native Interface Protocol Specification:

rs system-to-system integration capabilities of ATIOnet, designed to interact with third-party back-end systems, for example downloading transactions data or sending current-account ements to ATIOnet. This API is reserved and requires ATIOnet and Subscriber permissions.

Onet Maintenance Interface Protocol Specification:

set of functions designed to help in the maintenance and support of a network of capture terminals, for example checking terminal's status via a Keep-alive message. This API is desig pport ATIOnet's own line of capture and gateway devices and thus is a reserved protocol.

dition to one or more protocol specifications, Integration Projects must have an "Integration Scope Document" detailing the feature-set to be implemented by the capture system, which defines the acceptance criteria for the project.

ope

on 1.0 of this document covers a particular version of ATIONet's Loyalty Host protocol. Although feature's descriptions are generally not related to a particular version of the protocol, so ges may apply which would be specifically commented and identified on each feature's ription paragraph.

pe Details

col: ATIONet Native Transaction Protocol

on: Version 1.0

JRI: native.ationet.com/v1/loyalty

ported Transactions

me	Protocol Ver.		Description
	Initial	Change	
cumulation	1.0		Used to post a credit to the affiliate's account.
demption	1.0		Informs a debit to the affiliate's account.

quiry	1.0		Retrieves affiliate's current balance.
nsfer	1.0		Grants points from one loyalty account to another one
justments	1.0		Posts a positive or negative (credit or debit) discretionary movement to an affiliate's account

ta Security

lidate the source of transactions and data encryption, the ATIONet Native Transaction Protocol relies on a SSL connection between the Site’s Terminal or Site’s Controller and the ATIOI
. The SSL connection is established for each request/response pair, using a certificate property of ATIONet, meaning that each request must include a system-type user and password o
eader. The user will be matched against the related ATIONet actor for each message.

s to be used on the Transaction Protocol messaging will be created by authorized users via ATIONet Console, with the role “Controller/Terminal”.

s time there is no provisioning to distribute or update certificates or thumbprints thru a system interface. This information will be provided at request of the Controller’s vendor during th
ration project.

essage Structure

ansaction API messages share the same structure, what change from message to message are the Transaction Code, which indicates the actual transaction function, the value fields se
eceived, and the HTTP action (POST, GET, REQUEST) which changes depending on the Transaction Code.

requests and responses use a JSON format.

one request is accepted on each message.

quest Format

er:

```
pt-Encoding: gzip
```

```
orization: Basic user:password
```

:
dname”:”StringValue”,”FieldName”:”StringValue”,”FieldName”:Value}

sponse

er:

```
ent-Type: application/json; charset=utf-8
```

:
dname”:”StringValue”,”FieldName”:”StringValue”,”FieldName”:Value}

Alphanumeric fields, stated as Type “A/N” in record format tables below show the maximum possible length as the Size, although in JSON-formatted strings they will be represented w
g spaces trimmed.

ror Handling

ess/failure exits on the Native Transaction Protocol will be handled via HTTP status codes.

essful request will get a HTTP 200 and the resulting response.

actions intended to post a command, for example Authorizations and Pre-Authorizations will return a single JSON-formatted item with the “Response Code” and “Response Text”. The
of these responses will never be empty.

re to process the request will be indicated by an HTTP 400’s range status code. The body will contain a single JSON-formatted item with the “ResponseCode”, “ResponseMessage” an
ponseError” fields.

to Response Codes Table in the Reference Tables section for a complete list of supported codes.

eld Descriptions

section details the purpose and expected behavior on the Controller system for relevant items on the protocol.

tem Model and System Version

d/Model and Firmware/Software version of the client system. Format and content will be assigned for each vendor during the Integration project.

minal Identification

nal ID is a system-wide unique ID for the Controller or Terminal device on the capture side. Terminal ID should be configured on the client system during manual installation. The length ID's code depends on the controller.

rice Type Identifier

gle digit field, informed by the Controller system, that identifies the type of capture device. (Manned/Unmanned, Indoor/Outdoor). In case the Controller system doesn't have the capabi orm this distinction, "4 – Other self-service" should be always informed.

nsaction Sequence Number

Transaction number is a fixed-length integer value from 1 to 999999 and it is assigned and incremented for each transaction sent to the Host, regardless of the result. It must be reset ba every time it reaches the limit.

ry Method

Entry Method code indicates whether the customer identification was manually typed-in, read from a card swipe or any other automatic identification mechanism.

cessing Mode

ates whether the Host must apply an alternative process to the request. Regular transactions must inform "1 = Host processing required"

ck Data

field identifies the account of the transaction.

e are two Tracks fields, the Primary and Secondary.
ary track is mandatory and the only one used on all messages except for the Transfer request. In the Transfer request, the Primary Track is the origin account (gets the debit movement) econdary Track identifies the destination account (gets the credit movement).

ch Number

onal information, if informed, ATIONet will use this field for report filtering and queries.

d, data must be formatted as an 11 digit number: yyyymmddbbb. Year (4 digits), Month (2 digits), Day (2 digits), Batch/Shift number (3 digits, padded with zeros). Date part must be the ng date of the batch. Batch number must wrap-around to 1 after reaching 999.

re is no batch functionality at all, the recommended format is Transaction Date plus 3 zeros.

ft Number

onal information, if informed, ATIONet will use this field for report filtering and queries.

Controller application can manage the Shift Number and meaning as needed. It may be day's shift number, weekly batches, split-batches, etc., although this is a fixed length field, theref ormat must be maintained.

re is no batch or shift functionality at all, the recommended format is the business date of the transaction followed of 3 zeros.

stomer Data

omer data on a LREQ contains extra information gathered from prompts to the Cardholder or Attendant. On a LRESP, it contains the list of prompts that must be presented to the holder or Attendant or a list of values to be used by the Terminal at capture, transaction or receipt printing.

horization Code

Host will return the Authorization Code on all approved transactions.
re-Authorization/Completions message flows, the Controller must keep the Authorization Code sent on the Pre-Authorization LRESP and send it to the Host on the Completion LREQ. This is a mandatory feature.

to Authorization Codes Table in the Reference Tables section for a complete list of supported codes.

yalty Transaction Request (LREQ) Message Format

ld Name	Size	Type	Condition	Descriptions/Field Value(s)
plicationType	4	string	Required	Always “LTY” Loyalty System
ocessingMode	1	string	Required	“0” = Host Capture Only “1” = Host Processing Required “2” = Operator Assisted Capture
essageFormatVersion	3	string	Required	Current Host Message Version = “1.0”
rminalIdentification	Var	string	Required	Terminal Identification
viceTypeIdentifier	1	string	Required	“1” = Indoor Payment Terminal “2” = Outdoor Payment Terminal “3” = Card Reader in Dispenser “4” = Other Self-Service
stemModel	10	string	Required	Refer to System Model and System Version in Field Description section
stemVersion	10	string	Required	Refer to System Model and System Version in Field Description section
nsactionCode	3	string	Required	Refer to Transaction Codes in Reference Tables Section
countType	1	string	Required	Refer to Account Types in Reference Tables Section
tryMethod	1	string	Required	“M” Manual Entry “S” Swap Card “T” Tag read
rviceCode	1	string	Optional	Reserved for future use
nsactionData	Var	String	Conditional	Refer to Accumulation section
stomerData	Var	Dictionary	Conditional	Refer to Customer Data in Field Description section
nsactionAmount	Var	decimal, signed	Conditional	xxxxxxx.xx Refer to Accumulation section
yaltyPoints	Var	decimal, signed	Conditional	xxxxxxx.xx Refer to Fields description section
rrencyCode	3	string	Optional	Refer to Currency Codes in Reference Tables Section

tchNumber	Var	int	Optional	Refer to Batch Number in Field Description section
iftNumber	Var	string	Optional	Refer to Shift Number in Field Description section
nsactionSequenceNumber	Var	int	Required	Refer to Transaction Sequence Number in Field Description section
calTransactionDate	8	int	Required	Local Transaction Date: yyyymmdd
calTransactionTime	6	int	Required	Local Transaction Time: hhmmss
maryTrack	Var	string	Required	Refer to Track Data in Field Description section
condaryTrack	Var	string	Required	Refer to Track Data in Field Description section
oiceNumber	Var	string	Optional	

yalty Transaction Response (LRESP) Message Format

ld Name	Size	Type	Condition	Descriptions/Field Value(s)
plicationType	3	string	Required	Echoed from LREQ
ocessingMode	1	string	Required	Echoed from LREQ
essageFormatVersion	3	string	Required	Echoed from LREQ
rminalIdentification	Var	string	Required	Echoed from LREQ
viceTypeIdentifier	1	string	Required	Echoed from LREQ
nsactionCode	3	string	Required	Refer to Transaction Codes in Reference Tables Section
countType	1	string	Required	Echoed from LREQ
tryMethod	1	string	Required	Echoed from LREQ
nsactionAmount	Var	decimal	Conditional	xxxxxxx.xx
rrencyCode	3	string	Optional	Refer to Currency Codes in Reference Tables Section
tchNumber	Var	int	Optional	Echoed from LREQ

iftNumber	Var	string	Optional	Echoed from LREQ
nsactionSequenceNumber	Var	int	Required	Echoed from LREQ
calTransactionDate	8	int	Required	Echoed from LREQ
calTransactionTime	6	int	Required	Echoed from LREQ
thorizationCode	Var	string	Conditional	Refer to Authorization Code in Field Description section
oiceNumber	Var	string	Optional	
yaltyPoints	Var	string	Conditional	Refer to Fields description section
erBalance	Var	decimal	Conditional	xxxxxxx.xx
ceiptData	Var	string	Conditional	
sponseCode	5	string	Required	“0” = Authorized, !”0” = Not Authorized
sponseText	20	string	Required	Message from the Network

ference Tables

section brings together the code tables and reference values used in messaging.

nsaction Codes

de	Message	Description
10”	LREQ	Accumulation REQ
11”	LRESP	Accumulation RESP
20”	LREQ	Redemption REQ
21”	LRESP	Redepmtion RESP
30”	LREQ	Balance Enquiry REQ
31”	LRESP	Balance Enquiry RESP
40”	LREQ	Transfer REQ

41”	LRESP	Transfer RESP
50”	LREQ	Adjustment REQ
51”	LRESP	Adjustment RESP

count Type

pe	Description
”	ATIONet native loyalty track

nsaction Data Structure

ld Name	Size	Type	Condition	Descriptions/Field Value(s)
duct List section (one per product in transaction)				
rviceCode	1	string	Required	
oductCode	4	string	Required	“0”-“9999”
oductUnitPrice	Var	decimal	Optional	xxx.xxx
oductNetAmount	Var	decimal	Optional	xxxxxxx.xx
oductTaxes	Var	Dictionary	Optional	<”[Tax Description]”, [Tax Value]>
oductAmount	Var	decimal	Optional	xxxxxxx.xx
oductQuantity	Var	decimal	Optional	xxxxxxx.xx
itCode	Var	string	Optional	Refer to Measurement Unit Codes in Reference Tables Section
thod-of-Payment List section (one per MoP in transaction)				
oPCode	4	string	Required	“0”-“9999”
nount	Var	decimal	Required	xxxx.xx

stomer Data

pt elements

ld Name
omptOdometer
omptMiscellaneous

rency Codes

to ISO 4217 Currency Codes standard (http://en.wikipedia.org/wiki/ISO_4217)

horization Codes

sponseCode	ResponseMessage
000	Authorized
lidations	
000	Date Invalid
001	Time Invalid
002	Seq Num Invalid
003	Term does not exist
004	Netw does not exist
005	Id does not exist
006	SecId does not exist
007	Fuel does not exist
008	Merch not found
009	Site not found

010	Prot not found
011	TType not found
012	Comp not found
013	Contr not found
014	Subacc not found
015	SecSubacc not found
016	Empty subaccount
017	Empty sec subaccount
018	Ids both veh
019	Ids both driv
020	Subacc in diff cont
021	Dri or Veh not found
022	Id is not active
023	SecId is not active
024	Id has expired
025	SecId has expired
026	Vehicle not enabled
027	Driver not enabled
028	Contract has expired
029	Site not in contr
030	Fuel not in contr

031	Fuel not in vehclas
032	Driver not related
033	Vehicle not related
034	Sec Track needed
035	Fuel needed
036	Fuel mapping needed
037	Already completed
038	NetComp not found
039	NetMerch not found
040	Auth does not exists
041	Auth not authorized
042	Auth with diff fuel
043	Auth with diff PPU
044	Auth amount exceeded
045	Auth qty exceeded
046	Auth with diff id
047	Auth with diff secid
048	Auth with diff term
049	Auth with diff netw
050	Auth with diff merch

051	Auth with diff nwmr
052	Auth with diff site
053	Auth with diff prot
054	Auth with diff tt
055	Auth with diff comp
056	Auth with diff nwcp
057	Auth with diff contr
058	Auth with diff subacc
059	Auth with diff sec sa
060	Auth with diff vehicle
061	Auth with diff driver
062	Proc Code Not Supp
063	TType qty exceded
064	TType amount exceded
065	Tag PIN Invalid
cationRule	
100	Site not authorized
101	Site not authorized
102	Site not authorized
103	Site not authorized
elRule	

200	Product not authorized
201	Product not authorized
202	Product not authorized
203	Product not authorized
ansactionRule	
300	Quota not set
300	Veh money excedeed
301	Driv money excedeed
302	Prod money excedeed
303	Site money excedeed
304	Fleet money excedeed
305	Veh fuel excedeed
306	Driv fuel excedeed
307	Prod fuel excedeed
308	Site fuel excedeed
309	Fleet fuel excedeed
otaRule	
400	Quota not set
400	Veh money excedeed
401	Driv money excedeed
402	Prod money excedeed

402	Prod money excedeed
403	Site money excedeed
404	Fleet money excedeed
405	Veh fuel excedeed
406	Driv fuel excedeed
407	Prod fuel excedeed
408	Site fuel excedeed
409	Fleet fuel excedeed
410	Veh tran excedeed
411	Driv tran excedeed
412	Prod tran excedeed
413	Site tran excedeed
414	Fleet tran excedeed
omptingRule	
500	Retries exceded
500	Prompting needed
501	Pri PIN needed
502	Sec PIN needed
503	Pri PIN invalid
504	Sec PIN invalid
ysRule	

600	Week days not set
600	Day not authorized
601	Day not authorized
602	Day not authorized
603	Day not authorized
604	Day not authorized
teTimeRule	
700	DateTime not set
700	DateTime not auth
701	DateTime not auth
702	DateTime not auth
703	DateTime not auth
704	DateTime not auth
705	DateTime not auth
706	DateTime not auth
707	DateTime not auth
708	DateTime not auth
709	DateTime not auth
710	DateTime not auth
711	DateTime not auth
712	DateTime not auth

713	DateTime not auth
714	DateTime not auth
715	DateTime not auth
716	DateTime not auth
717	DateTime not auth
718	DateTime not auth
719	DateTime not auth
720	DateTime not auth
721	DateTime not auth
722	DateTime not auth
723	DateTime not auth
724	DateTime not auth
725	DateTime not auth
726	DateTime not auth
727	DateTime not auth
728	DateTime not auth
729	DateTime not auth
ysTimeRule	
300	Week days not set
301	Time not set

300	Day not authorized
301	Day not authorized
302	Day not authorized
303	Day not authorized
304	Day not authorized
305	DaysTime not auth
306	DaysTime not auth
307	DaysTime not auth
308	DaysTime not auth
309	DaysTime not auth
310	DaysTime not auth
311	DaysTime not auth
312	DaysTime not auth
313	DaysTime not auth
314	DaysTime not auth
tablishLimits	
900	Unit price needed
901	Max quota not set
900	CA quota exceeded
901	Offline lim exceeded
arnings	

000	Pim Track not match
001	Sec Track not match
002	Fuels not match
003	PPU not match
licationError	
000	App Error

ponse Codes

sponseCode	ResponseMessage
000	Operation Succeeded
000	Invalid Identification Data
001	Invalid Filter Data
002	User not allowed to use this action
003	Invalid Action Code
004	Invalid user name or password
005	Movement not allowed
000	Internal Server Error