Certification Guidelines
&
UI Best Practices

Version 1.0

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Introduction:

This document will cover the guidelines the organization intending to integrate with the eDirham G2 system has to follow in order to get certified as an organization ready to be Live with the eDirham G2 system production environment.

eService Payment Cycle.

Organization should follow the same process shown below in Figure1 which represents the customer point of view eservice application flow.

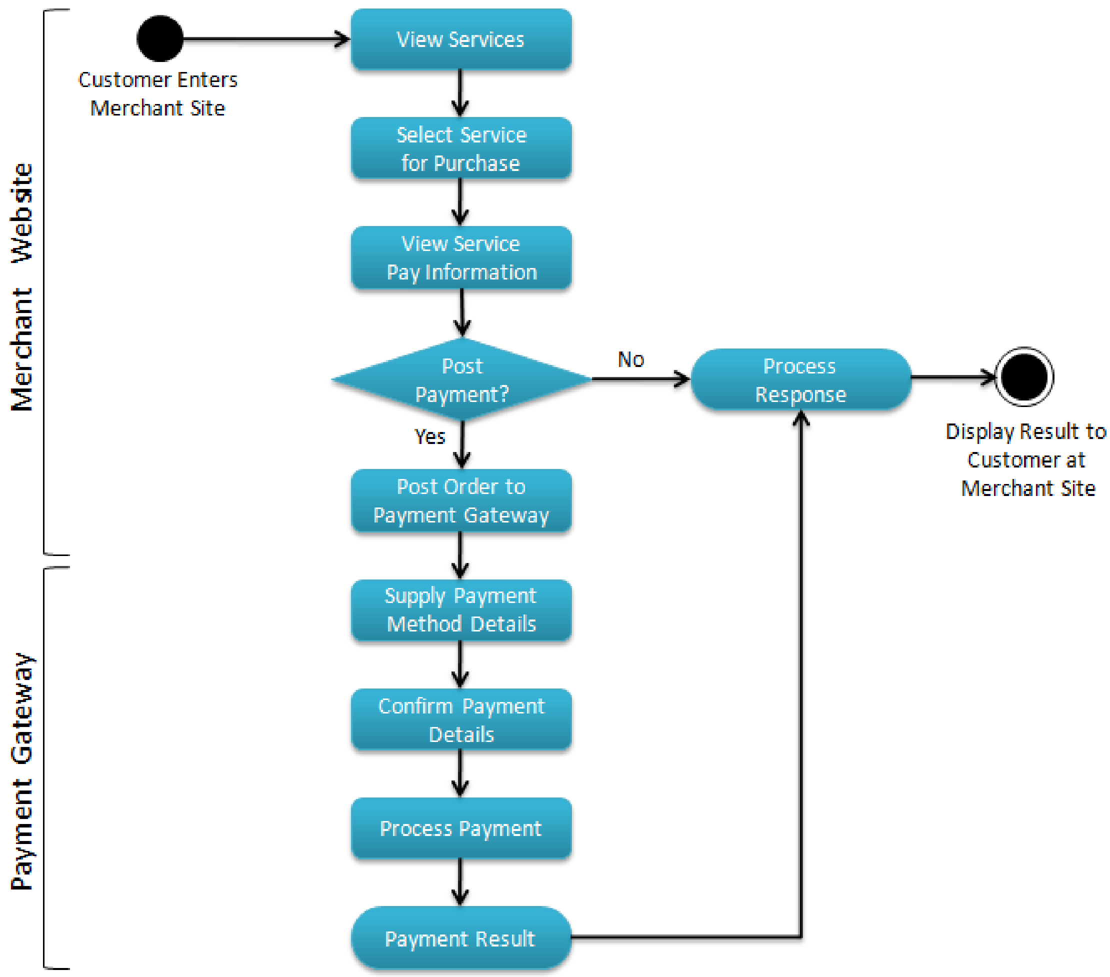


Figure 1: EService Payment Cycle.

Functions:

PG Admin will certify the organization on the agreed and implemented functions, and any addition/modification should go through the proper channel where both MOF and PG Admin being informed to recertify the organization test environment with the current modifications before moving the organization to the production environment.

Functions:

1- Eservice Enquiry
2- Pay
3- Pre-Authorize
4- Completion (Capture)
5- Auto Update
6- Refund
7- Void

All functions should be developed according to the integration guide with the help of the provided sample application which is helpful in the way the APIs are being handled.

Pay/Pre-authorize functional interaction:

Organization should stick to the functional interaction flow shown below in Figure2

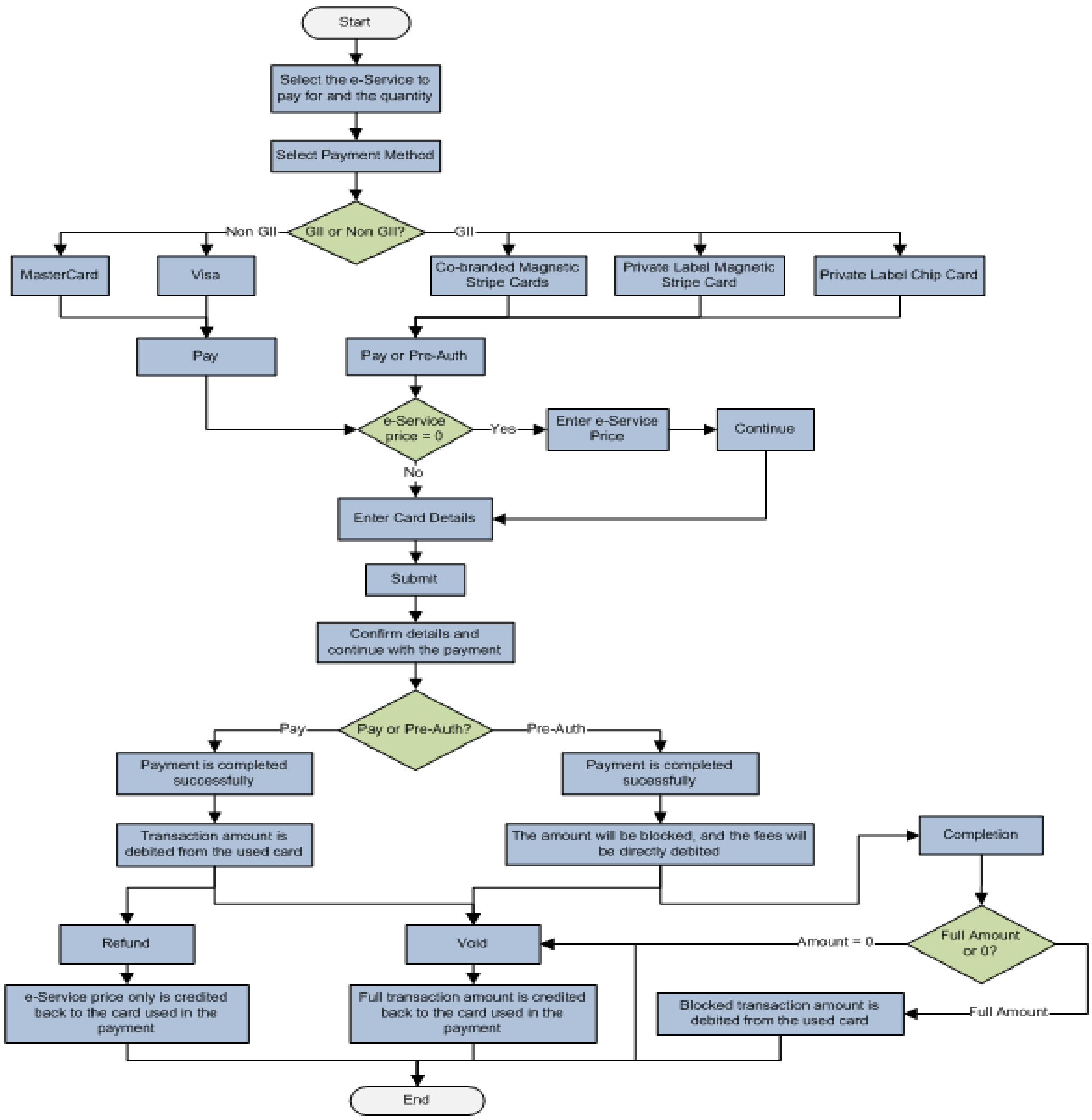


Figure 2: Pay/Pre-authorize functional flow

EDirham G2 Payment Gateway Certification Guidelines:

Each organization can develop its own user profile management (if there is) or payment tracking system, database tables and eservice lifecycle and delivery; however the PG Admin should make sure that the technical and business requirements are met to overcome any user frustration.

Organization must follow the following Business/Technical guidelines while doing the integration with the EDirham G2 system:

Note: Prior to the certification process at the staging (test) environment, the following guidelines and UI practices should be followed and implemented by the technical teams. However, as a result of the certification process, some changes and enhancement might be applied on the UI practices as best seen by eDirham Support team and MOF team for the following reasons:
1. Maintain the integrity of the UI along all organizations,
2. Unify the user experience for eDirham system
3. Eliminate any misleading presentation/functionality from eDirham customer.
4. Save the customer from losing the service due to improperly implemented flow/functionality.

General web site requirements:

1- The organization web site should be accessible using a name service like (www.domain.ae)
2- The integrated pages should be SSL enabled (HTTPS) with minimum 128 bit real certificate. (https://www.domain.ae/..)
3- POPUPs, Frames and IFrames are not allowed within the integrated web pages and any redirection should be within the same page.
4- Direct access to the integrated pages should be blocked, even it is recommended to implement the same restrictions for user's privileged pages to force the user to go through the proper application workflow and redirect him to the login page (same rule applies even if there is no user profile management).
5- Organization web site user interface supported languages should be communicated to the PG Admin, and all pages should be consistent with the user selected language along all the payment cycle.
   Note: PG supports Arabic and English interfaces and this can be controlled by the parameters passed by the organization web site to the PG through the redirection. please refer to the integration guide Pay function for more details.

Functionality Requirements:

The organization's technical team should stick to the following functional requirements and UI layout guidelines at minimum.

Any screenshot below is presented as an example only and the development team is free to do their own layout; however they must stick to the minimum guidelines mentioned.

Eservice Enquiry Page:

1- Services published on the website should be consistent with the service codes registered on the eDirham G2 system which should be provided by the PG Admin.

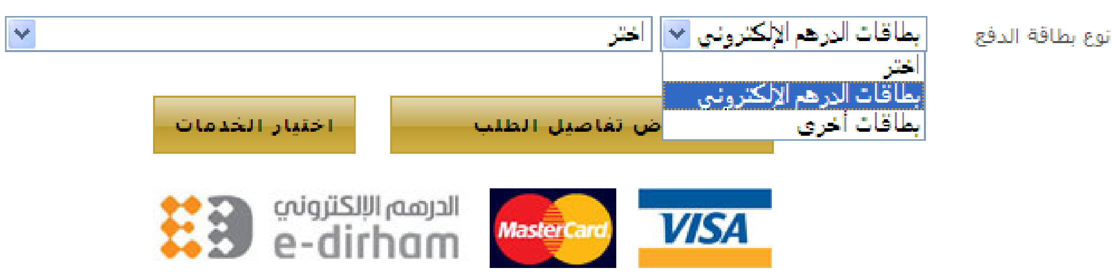
2- No amount should be displayed to the customer before the eservice enquiry, since the amount details are returned by the PG as part of the eservice enquiry according to the enquired service and details provided.

3- Organization web site should display to the customer the payment methods available/allowed so he can select from:

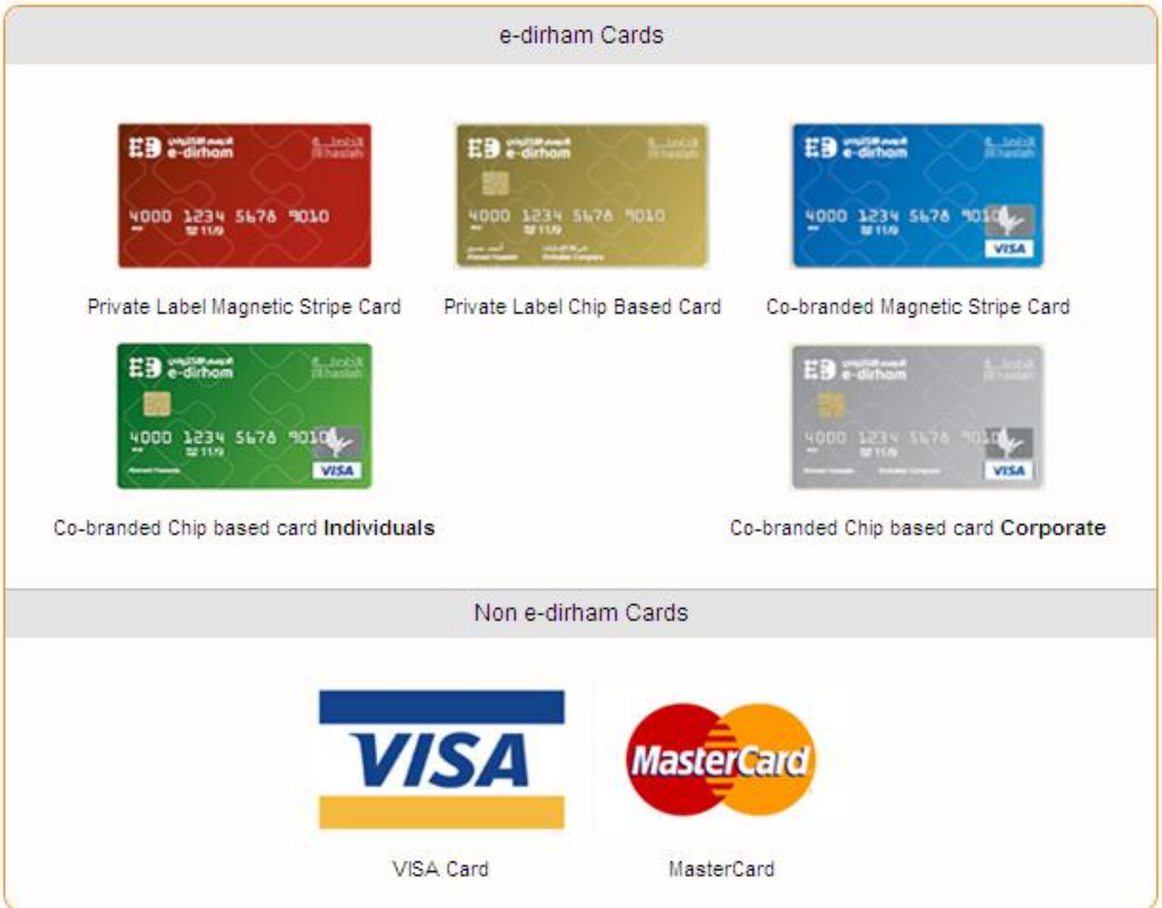
a- There should be a separation between G2 cards and non G2 cards in any way the development team feel it is appropriate and fit within their layout.
For example (these are just examples and may not fulfill some of the guidelines like card displayed name etc ...):

i- two radio buttons and two drop down menus

ii- two drop down menus only like:



iii- Display the cards icons and the user can select from, but also separated as follows:



b- The card naming should be displayed according to the following Table:

G2 Cards:

SN	Existing English Name	Displayed Card Arabic Name	Displayed Card English Name
1	**GII Co-Branded Mag-Stripe Card**	بطاقة الحاصلة الزرقاء المسبقة الدفع من الجيل الثاني للدرهم الالكتروني	e-Dirham G2 Blue Al Haslah Prepaid Card
2	**GII PLC Mag-Stripe Card**	بطاقة الحاصلة الحمراء المسبقة الدفع من الجيل الثاني للدرهم الالكتروني	e-Dirham G2 Red Al Haslah Prepaid Card
3	**GII PLC Chip Card**	بطاقة الحاصلة الذهبية المسبقة الدفع من الجيل الثاني للدرهم الالكتروني	e-Dirham G2 Gold Al Haslah Prepaid Card
4	**GII Corporate Co-Branded Chip Card**	غير متوفرة الان	N/A coming soon
5	**GII Personal Co-Branded Chip Card**	غير متوفرة الان	N/A coming soon

Non G2 Cards:

SN	Card English Name	Card Arabic Name
1	**Visa**	فيزا
2	**Master Card**	ماستر كارد

Note: Currently for G2 cards Table (4 and 5/ Silver and Green cards) should be hidden (not shown in the list of available cards for payment but keep the code) till requested by Ministry of Finance.

c- G2 EDirham, Visa and Master Logos should be displayed in the Page in an appropriate place that fit within the organization website layout.

Eservice Enquiry Response & Service Details Confirmation Page:

1- At minimum the following details must be displayed in order for each selected service separated by a line, bearing in mind the current selected language:
   - i- Service number corresponding to the total number of selected services like (Service 1 (الخدمة المطلوبة 1), Service 2(الخدمة المطلوبة 1)
   - ii- Service English Description (الوصف بالانجليزية).
   - iii- Service Arabic Description (الوصف بالعربية).
   - iv- Service Price (سعر الخدمة).
   - v- Service Owner Fees (رسوم صاحب الخدمة).
   - vi- Service Total Amount (مجموع سعر الخدمة).
2- The following details must be displayed in order for the entire transaction, bearing in mind the current selected language :
   - i- Selected payment Card (نوع بطاقة الدفع)
   - ii- Collection Centre Fees (رسوم مركز التحصيل).
   - iii- Edirham Fees (رسوم الدرهم الالكتروني).
   - iv- Amount to be paid (اجمالي المبلغ المطلوب). It is recommended to make it of bold font.
3- Amount should be of expression ABC **,** DEF **.** XY
4- (AED)(درهم) should be displayed after each amount
5- Terms and conditions Sentence (الشروط والأحكام) should be displayed, and user must agree on it so he can proceed with the payment (confirmation button will get activated once terms and conditions check box selected).the terms and conditions sentence should be provided by the organization management themselves to reflect the organization policy, rules etc… that accompany the service payment and delivery.
6- G2 EDirham, Visa and Master Logos should be displayed in the Page in an appropriate place that fit within the organization website layout.
7- Pay function will be called by the time the customer confirm the details where he get redirected to the Edirham Payment Gateway Page (consider the selected language at this point since the PG supports both Arabic and English interfaces and the language is a parameter(en, ar) .
8- the Payment Gateway is doing validation on the organization URL the customer get redirect from and it is case sensitive; so the developer should consider this and always force the URL to be as communicated to the PG Admin regardless what the customer entered on the browser (i.e. may customer mix capital and small letters to access the organization website/direct authorized page).
   The following figure displays a sample eservice enquiry response page:

Figure 3: Eservice enquiry response Page.

Redirect Pay Response Page:

Once the customer finished with the payment on the Edirham G2 payment Gateway site he will be redirected back to the organization site.

1- A message display the payment result should be displayed at this page. Organization may mention also something about service delivery in case of a successful payment.
2- At minimum the following must be displayed in order for the entire paid transaction, bearing in mind the current selected language :
   - i- Organization Name (اسم الجهة)
   - ii- Receipt Number (رقم الايصال)
   - iii- Date & Time (الوقت والتاريخ)
   - iv- Transaction ID (رقم العملية)
   - v- Application Number (if applicable) (رقم الطلب)
3- At minimum the following details must be displayed in order for each paid service separated by a line, bearing in mind the current selected language:

i- Service number corresponding to the total number of selected services like (Service 1 (الخدمة المطلوبة 1), Service 2(الخدمة المطلوبة 1)
ii- Service English Description (الوصف بالانجليزية).
iii- Service Arabic Description (الوصف بالعربية).
iv- Service Price (سعر الخدمة).
v- Service Owner Fees (رسوم صاحب الخدمة).
vi- Service Total Amount (مجموع سعر الخدمة).

4- The following details must be displayed in order for the entire paid transaction, bearing in mind the current selected language :

i- Selected payment Card (نوع بطاقة الدفع)
ii- Collection Centre Fees (رسوم مركز التحصيل).
iii- Edirham Fees (رسوم الدرهم الالكتروني).
iv- Amount paid (اجمالي المبلغ المدفوع). It is recommended to make it of bold font.
v- Amount should be of expression ABC **,** DEF **.** XY
vi- (AED)(درهم) should be displayed after each amount

The following figure displays the redirect response page:

Figure 4: Redirect Response Page

Auto Update Requirements:

Auto update is a function used to synch (and confirm) the organization transactions' database with the PG database to reflect the exact status according to the PG database (which is always should be considered as the reference of the transaction status).

1- Organization should run the auto update function on all non auto updated transactions in a daily scheduled basis (at least once a day). Failing to do that could have service delivery and financial impact.
2- Developer should be aware of the difference between the auto update function response itself (which reflect the auto update function execution result) and the auto updated transaction response status (which reflects the status on that transaction from the PG database).
3- Organization can do auto update on an auto updated transaction in case there was a failure in getting the response for some reason.

Below table shows some of the response codes returned by calling auto update function:

Table 1: Auto update function response codes

Code	Description
2012	Transaction does not exit
0000	Confirmed a successful transaction
6504	Some or all parameters were missing from the organization side confirmation message
6501	Organization is not authorized on the payment gateway
2079	Organization's IP is not supported on the payment gateway
6512	Confirmed a failed transaction
6514	Transaction already confirmed
6509	Transaction is pending reversal, please try again later
1010	An abnormal error occurred
2019	OUN is missing from the organization's message
2007	Organization Id is missing from the merchant's message
6502	Organization Id mismatch

Below flow chart is an example of how could the organization's developer could handle the auto update responses. (Developer can do his own flowchart if needed to handle it and accommodate his needs as long as it doesn't have an impact on the technical/business level).

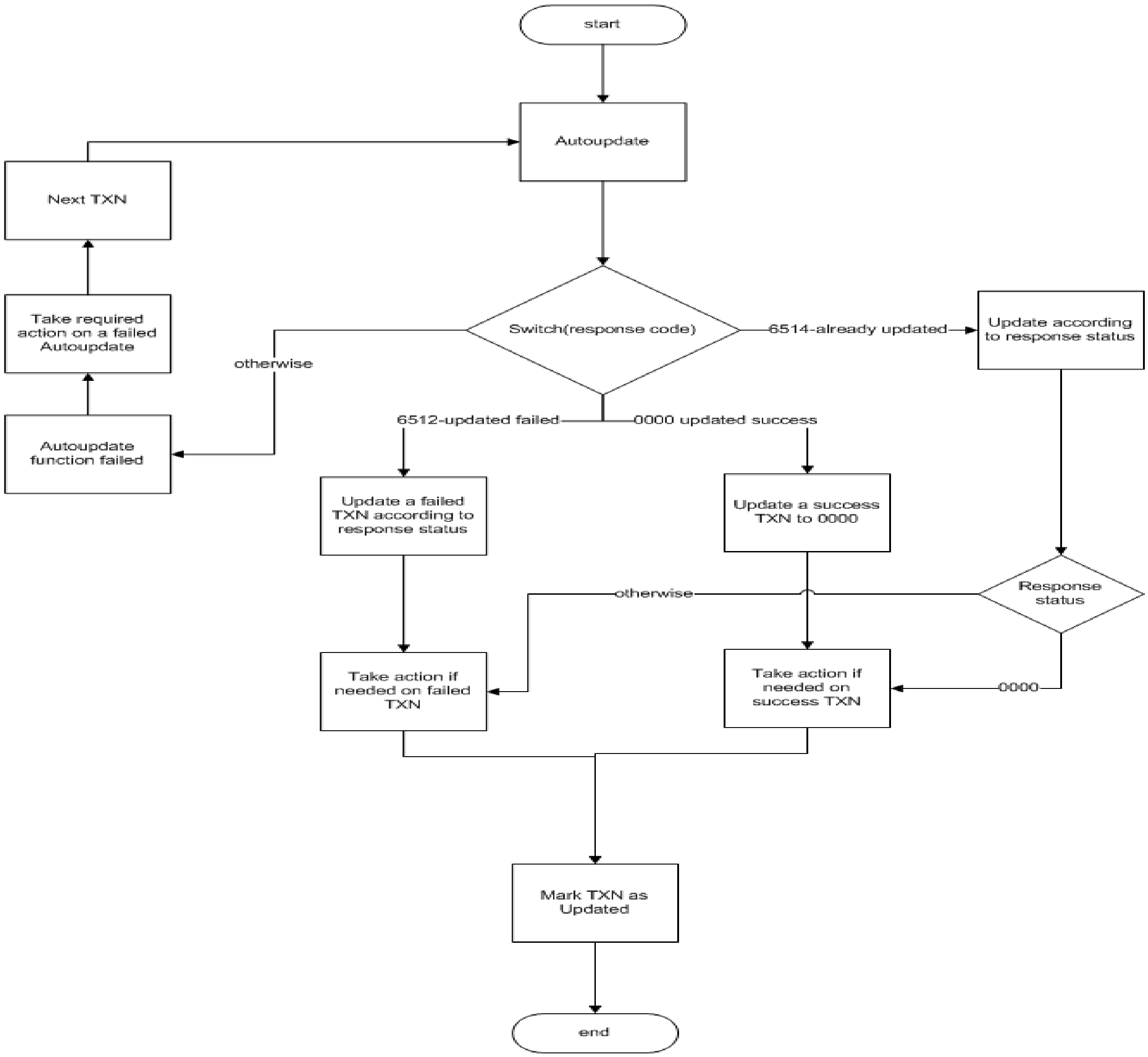


Figure 5: Auto update Flow chart

4- Broken Transaction Handling.

By the time the customer finished with the payment on Edirham G2 Payment Gateway site the customer will get redirected back to the organization website. The response message from the Payment Gateway is passed to the organization website within the redirection where the organization will take the action.

Broken transaction could be simulated by closing the browser after confirming the payment on the PG site and before the redirect back to the organization site.

Auto update plays an important rule to overcome a broken transaction:

Note: please refer to the flow chart above regarding auto update handling.

For user profile managed websites for example:

Once the customer got redirected to the PG site; the organization service payment application should be put in a block mode so the customer will not go through the process of paying the same application again unless the payment transaction failed(failure response received from the PG in the redirection) or a broken transaction got auto updated (Auto update should be run in this case on this specific transaction), where the customer tried to login to the organization website again(organization's developer in such cases could have handled it to do auto update this application since no response received from the PG and the customer is trying to access it. Or even developer could also configure a timeout value in coordination with the PG Admin and current session timeout configured on the PG system) and according to the update response the organization will take the action:

A- If the transaction is successful then the customer will get the successful page following the Redirect Pay Response Page guidelines mentioned above**:**

B- in case of failure:

i- Auto update itself failed: application kept in block mode till Auto update execution passed successfully (in some cases (like pending reversal transactions) the customer may informed to wait as maximum as 24 hours).

ii- Auto update passed on a failed Transaction: Allow customer to pay again.

Some Organizations may not adopt user profile management on their website and in this case they should consider a tracking mechanism for such scenarios of a broken transactions bearing in mind all above mentioned guidelines. (Mechanism could involve Email, SMS in addition to a customer awareness through the payment pages and a tracking URL that customer could call to follow-up on the transaction (auto update could also adopted in this URL also to overcome a broken transaction) or whatever the organization and the PG admin come to agree on to satisfy the needs of safeguarding the customer service delivery and customer satisfaction).

Refund/Void Functions Requirements:

1- Void/Refund functions are administrative tasks and the organization developer could handle it in a different internal URL or could develop the website to show void/refund button for specific transaction once approved by management or in any way he find it appropriate, bearing in mind that those functions are administrative rules and should not be misused or activated all the time to the customers.

2- Organization developer should stick to the Pay/Pre-authorize functional flow mentioned above.

3- Organization developer should consider the test cases mentioned in the test cases and certification requirements document to cover the cases related to those functions.

4- Organization developer should stick to the following functional interactional flow highlighting the sequence in which those functions are being called:

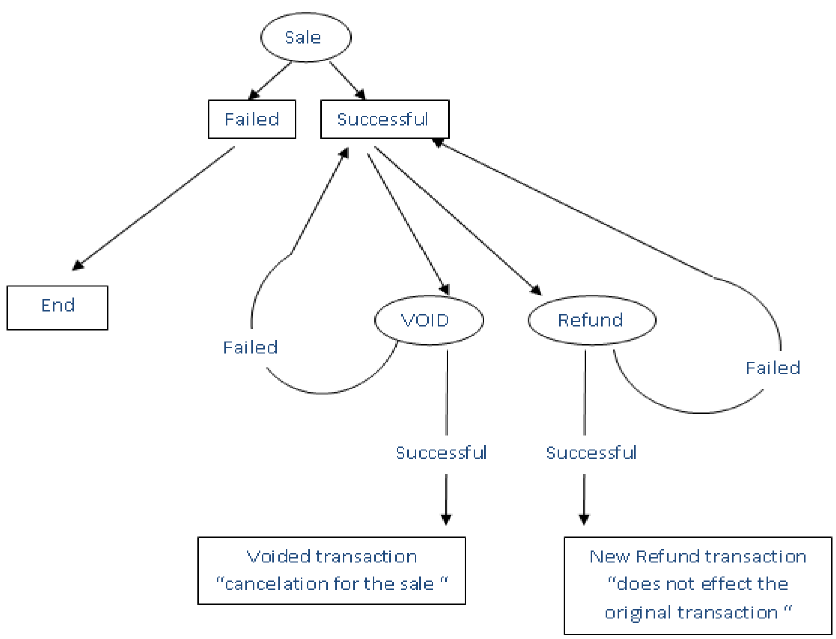


Figure 6: Sale Functional Interaction Flow

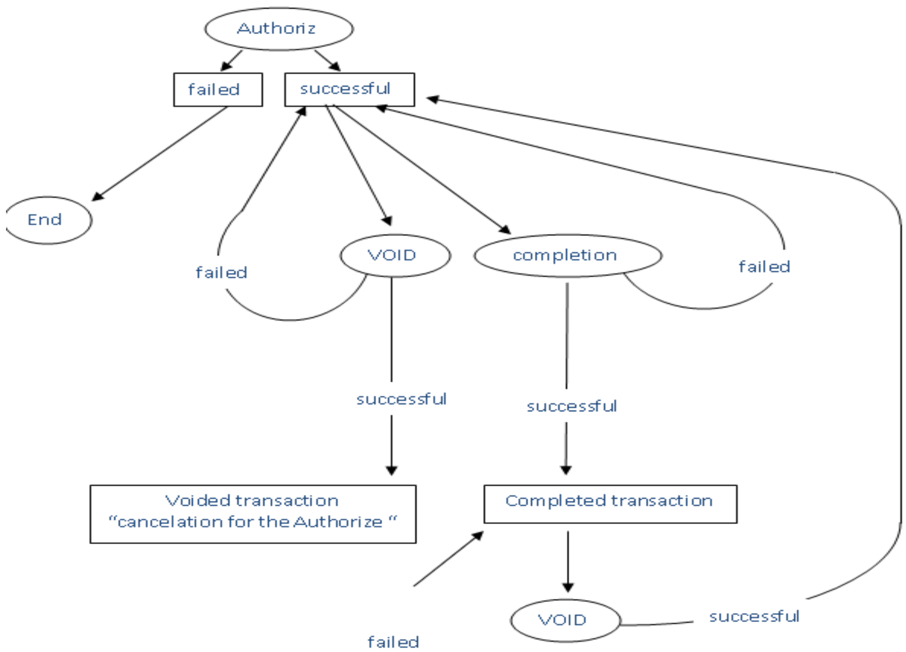


Figure 7: Authorize Functional Interaction Flow