Dashboard Definitions

NOTE: Please see section Terms of Proposal at the end of this document for conditions on which this proposal is offered.

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Introduction to WSO2.Telco

WSO2.Telco Inc., the brain child of a Telco group innovation team and WSO2 Inc., was set up to address the challenges global Telcos' face staying relevant and competitive in Internet age. The WSO2.Telco digital enablement platform is an open source "internet enabling layer" based on the award winning WSO2 open source middleware technology.

Our technology is the most complete open source platform of its kind for MNOs combining API management, Identity Management, powerful service mapping, efficient orchestration, monetization and reporting with enterprise grade support. It represents a radical departure from the traditional proprietary software licensing / support model, is cloud, PaaS or on premise ready and is horizontally scalable.

Our mission is to continue to embrace and refine new operational concepts and tried and tested open source technologies to achieve scalability & speed to market – whilst eliminating opportunity cost & execution friction for our partners.

Acronyms and Abbreviations

HE	Header Enrichment
On-Net	A scenario in which the user is consuming the service using mobile data
Off-Net	User is consuming the service on a different network than the network of the authenticating device. I.e. browsing via WiFi

Definitions

Gadget	Legend	Description
Auth Code Success (Total)	HE USSD USSD PIN SMS See below for definition for each item	This gadget generates a pie chart of all the successful API calls made to authorize endpoint and enable visualization of relative use of each of the authenticators
Auth Code Failure(Total)	MSISDN On-net T&C Of-net T&C USSD SMS See below for definition for each item	This gadget generates a pie chart of all the failed API calls made to authorize endpoint and enable visualization of funnel of transactions identifying where most failures/dropouts happened
Off-net & On-net Dropouts (Per day)	MSISDN On-net T&C Of-net T&C USSD SMS See below for definition for each item	Daily breakdown of failure modes for Off-net and On-net flows. This includes registration attempts. T&C bounce can be considered registration failures while USSD and SMS drop will consist of both registration and authentication failures.
Auth Code Success (Per day)	HE USSD USSD PIN SMS See below for definition for each item	Daily breakdown of authenticators that have been invoked in the authorize API call. This includes registration attempts
Authorizatio n Attempts (Per day)	Auth Count	Total number of hits on the authorize API endpoint for the given day. This included both successful and failed API calls to Auth endpoint

Daily Registrations (Per day)	Registration Count	Total registration count for the given day. Registration count only increments on successful authentications.
Token Count (Per day)	Token Count	Total successful API call make to token endpoint
Data Points Report	Auth Code Success-HE	Success Header Enrichment Authentication Count
	Auth Code Success-USSD	Success USSD Authentication Count
	Auth Code Success-SMS	Success SMS Authentication Count
	Auth Code Success-Total	Total Success Authentication Count
	Auth Code Fail-Onnet T&C	Failed at Onnet T&C Authentication Count
	Auth Code Fail-Offnet T&C	Failed at Offnet T&C Authentication Count
	Auth Code Fail-USSD	Failed USSD Authentication Count
	Auth Code Fail-SMS	Failed SMS Authentication Count
	Auth Code Fail-MSISDN	Failed MSISDN Authentication Count
	Auth Code Fail-Total	Total Failed Authentication Count
	Auth Attempts-Total	Total Authorization Attempts
	Auth Attempts-Onnet	Onnet Authorization Attempts
	Auth Attempts-Offnet	Offnet Authorization Attempts
	Auth Attempts-New User	New User Authorization Attempts
	Auth Attempts-Repeat User	Already registered User Authorization Attempts
	Total-Token API Call	Total token generation Attempts
	Total-Registration Count	Total registration Count
	HE Failures – IP Validation	IP validation HE Failures
	HE Failures – Invalid Header	Invalid Header HE Failures
	HE Failures – Originating from Proxy	Request Through Proxy HE Failures

USSD Report (Flow USSD Attempts)	Total Count	USSD push attempts that had been initiated
	Yes Count	USSD pushes replied with successful user consent
	No Count	USSD pushes with denied user consent
	Invalid Count	USSD pushes user replied with invalid option
	Cancel Count	USSD push requests canceled on the handset
	Timeout Count	USSD pushes that user have not replied
	Unknown Count	Unidentified failure scenario in the flow
USSD Error Report (Error codes)	Day	Day of authentication request
	Operator	Operator of authentication request
	{Error Message}-{Error Code}	Error message and relevant code on availability
MSISDN Report	Date Time	Date and Time of authentication
	Operator	Operator of authentication request
	App ID	App Id of authentication request
	MSISDN	User MSISDN of authentication
	Success or Failure	Authentication being success or failed
	Success or Fail Type	Type of success or failure
HE Failures Report (Invalid Header)	Date Time	Date and Time of authentication
	Operator	Operator of authentication request
	App ID	App Id of authentication request
	MSISDN	User MSISDN of authentication
	Source IP	Source IP of authentication

Scenario	Item	Descriptions
Auth Code Success	HE	Indicated total number of successful authorize API calls attributed to header enrichment.
	USSD	Indicated total number of successful authorize API calls attributed to USSD authenticator (LoA2) successfully authentication a user. E.g. correctly replying with 1 before USSD times out
	USSD PIN	Indicated total number of successful authorize API calls attributed to USSD authenticator (LoA3) successfully authentication a user. E.g. correctly responding with valid pin Note: In download-able total data-points report USSD PIN is summed with USSD and total USSD count is displayed
	SMS	Indicated total number of successful authorize API calls attributed to SMS authenticator (LoA2) successfully authentication a user. E.g. user clicking the URL provided in SMS and data being available on user device
Auth Code Failure	MSISDN	This indicates number of user that 'bounce' from MSISDN entry page. This is only applicable when no login_hint is provided in offnet scenario and MCX prompts users to enter their MSISDN

| | | On-net T&C | This indicates the number of users that do not progress beyond the T&C page for on-net scenario. This count includes users who click back/close browser (bounce) and those that decline to accept T&C

Note: T&C page is different depending on LoA2/3 flow |
| --- | --- | --- | --- |
| | | Off-net T&C | This indicates the number of users that do not progress beyond the T&C page for on-net scenario. This count includes users who click back/close browser (bounce) and those that decline to accept T&C

Note: T&C page is different depending on LoA2/3 flow |
| | | USSD | This captures number of authentication attempts that failed due to USSD authenticator related issue. This includes:

- USSD delivery related issues (Delayed delivery or lack of delivery)
- UX issues where user accidently clicks cancel or closed USSD prompt
- USSD device incompatibility issues
- User timeout where user does no respond quickly enough
- User clicking cancel?

Note: if the user clicks the send SMS link, the USSD count is not incremented. There are multiple scenarios related to this where some MNOs do not support USSD is certain circles and clicking SMS is standard behavior rather than a fallback n USSD issues. |

| | SMS | This captures the number of authentication failures that happen once the SMS authenticator has been invoked (User clicks the send SMS link)

This includes:

- SMS delivery issues
- UX issues and user not finding/opening the SMS
- User not clicking on SMS URL before timeout
- User does not have mobile data activated |

Known Issues

Analytics Data Issues

- There is a mismatch of approximately 2% on total authorize attempts vs. the sum of success authentications and dropouts total.
- In total data-points download-able report USSD dropout breakdown have mismatch from total less than 1% mismatch.
- In total data-points download-able report Auth attempt break down have a mismatch from total less than 2% mismatch.
- Provided MSISDN transaction list have a mismatch of less than 5% compared to analytics from dashboard.

    Note: There may be a deviation of dropouts in MSISDN transaction list vs. Dropout counts from dashboard due to transaction failing before capturing an msisdn.

- There may be an encrypted msisdns in the MSISDN transaction list and due to this hashed msisdn relation may fail to a particular msisdn.

UI Issues

- In generated reports alignment, formatting and colors may need further attention and will be fixed in future.
- Browser compatibility is not addressed and only checked with Google Chrome browser.
- After session timeout when changing a selection of data, the page does not loads new data and it does not show any error regarding a timeout till a page refresh.

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