Enterprise Intake Request Form - Vision and Scope

Purpose of Document

The Vision and Scope approved in this document will identify the full scope of the request. This document drives subsequent value planning, delivery planning, and development efforts for this initiative. It may be revised during the value planning process.

Project Name:

Standalone eSIM provisioning

Requestor:

Joe Varghese

Owner:

Mark Vitale

Sponsor:

Jay Spenchian

Business Relationship Manager: *Steve Andreeff*

Business Relationship Manager will work with the requestor to properly complete the Vision and Scope Document and review the solution proposal with the requestor when available.

IS Architect Consulted: Andy Sofranas

Business Objectives of Project

Devices during and beyond 2018 will have traditional SIM replaced by eSIM (GSMA based) for both Postpaid and Prepaid. USCC currently has no solution to provision these devices in standalone mode. Within the next 5 years, Device Marketing is forcasting that all devices (handsets, tablets, wearables, etc.) will only support eSIM.

This initiative will provide the ability to activate eSIM capable devices (either primary or secondary devices) through the Point of Sale (PoS) system. When the eSIM is on a secondary device, the system will support the provisioning and assignment of the “One Number” feature so that the secondary device and the primary device that it is paired with can make and receive phone calls and messaging using the same mobile number for Postpaid.

The solution will also support eSIM based Web Direct Fulfillment.

Note that On Device Activation (ODA) (i.e., the ability to activate an eSIM and choose a plan from the primary device) is out of scope for this project. However, some Device OEMs support using QR codes to download eSIMs that have been pre-assigned by TOPS. This functionality is not considered ODA, and is in scope of the project.
In addition, USCC will be able to activate eSIM capable devices from other carriers (BYOD). Such equipment can be smartphones, tablets and wearables.

Use Case Scenario(s)

Devices that support LTE currently require a physical SIM card that stores a USCC specific profile. The ability to support SIM card itself that can be removed from the device and placed into another device, or the SIM can be swapped for a new SIM card (e.g., when the device changes ownership or the SIM card becomes damaged).

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With the introduction of eSIM (embedded SIM), USCC has introduced the solution to support remote provisioning of these eSIMs which are physically integrated into the device during manufacture and cannot be removed from the device and replaced with another SIM.

In general, all current operations to support devices with SIM cards need to be supported for devices with eSIM.

Note: Need to understand the TOPS impacts that will there be a new field for eSIM since we will be living in dual worlds the UICC field will still need to exist for Physical SIM cards

Use Case Scenario Overall: eSIM Life Cycle

Current State: Our current process does not currently involve using eSIM devices from a product life cycle perspective.

Future State: The ability for the following processes to be enhanced related with eSIM implementation, frontline experience should be following current BAU process, associate will be able to activate the device wihout physically inserting the SIM:

- Forecast
- Procurement
- Inventory
- Shipping
- Selling/provisioning (Impacts with all channels: Corporate/Agent/Telesales/National Retail etc.)
    - Corporate Stores channels will be aligned with the eSIM device implementation from selling and provisioning perspective.
    - Agent Stores will be aligned with the eSIM device implementation from selling and provisioning perspective.
    - Telesales will be aligned with the eSIM device implementation from selling and provisioning perspective
    - National Retail will be aligned with the eSIM device implementation from selling and provisioning perspective
- Support the re-use of eSIM for scenarios where the customer does not change devices (e.g., factory data reset) or if a customer does lifecycle operations that do not result in any change in status of the customer's line that is associated with the eSIM (e.g., customer moves from one eSIM device to another).
- End of Life

Use Case Scenario #1: USCC eSIM profile/Activation

Current State: Currently we don't have the ability to activate eSIM primary device.

Future State: The ability to support activating an eSIM device on the USCC network.

The following steps provide the high level flow related with this use case:

1. Customer meets eligibility criteria and has a compatible/certified eSIM device that is from USCC inventory.
2. enter/scan IMEI

3 eSIM will be assigned to the EID of the device and provisioned with correct SIM profile

4. Depending on the flow (POS vs. DF vs. self-care). the device pairing will happen there or after the order is complete or when the profile is downloaded into the LPA
5. Services will be added as desired
6. View Order Summary
7. Print and sign Service Agreement and Retail Installment Contract
8. Payment

Activations based on channel:


eSIM New Customer Activations_RIM v1.0.c

Corporate Store: This will follow the RIM activation flow use case.
Agent: This will follow the RIM for Agents activation flow use case.


eSIM Device Purchase via Telesales Use Cas

Telesales: This will follow the DF activation flow use case.

Use Case Scenario #2: Customer with eSIM device ports in from a different carrier

Current State: Our current port in process does not include eSIM related devices.

Future State: The ability for customers to port in to USCC with/without an eSIM device and be able to activate the eSIM device on our network. All BYOD devices must be certified for use by U.S. Cellular and follow the BYOD current SKU checks.

Use Case Scenario #3a: eSIM Device Swap on a single multi line account

Current State: Our current swap process does not include device swap for a eSIM customer on a single multi line account.

Future State: The ability for a customer to swap eSIM device from a regular SIM to and eSIM and vice-versa on a single multi line account. We want the eSIM device to be swaped to be the same way as we currently swap.

Use Case Scenario #3b: eSIM Device Swap across mutiple accounts

Current State: Our current swap process does not include device swap for a eSIM customer across multiple accounts.

Future State: The ability to swap eSIM devices from a regular SIM to and eSIM and vice-versa across multiple accounts. For example swapping of eSIM based devices can occur amongst subscribers who are on different accounts.

Use Case Scenario #4: BYOD (eSIM Device)

Current State: Our current BYOD process does not include eSIM devices.

Future State: The ability to activate a certified eSIM device when a new or existing customer brings their own device.
Associate will enter device profile into TOPS and follows the provisioning/activation process.

Note: All devices purchased via Agent locations will be added to accounts as Customer Owned Equipment (COE).

Use Case Scenario #6: Service with 'One Mobile Number'

Current State: Our One Number functionality currently supports One Number for ACME devices only. The current process supports the regular SIM cards that are located in the primary devices.

Future State: The ability to support One Mobile Number from the point when a customer or prospect calls until the point when the customer can use the One Mobile Number service on a primary and secondary eSIM device supported through the following channels:

- USCC Corporate Store
- Agent
- National Retail
- DF (Web/Telesales/B2B)

Use Case Scenario #7: Advanced Shipment Notice (ASN) Impact

Current State: Our current ASN file does not include any eSIM related information.

Future State: USCC's distribution center needs to accommodate eSIM related information in the ASN file when an eSIM-based device ships from OEM.

Add property(EID) to the device to be pulled in.

TOPS will recognize this as a device with EID and recognize it as an eSIM device.

When the Device is entered the EID will be returned from SAP to TOPS.

Use Case Scenario #8: eSIM Support Services

Current State: Our current support services does not include eSIM device portfolio.

Future State: The ability to support eSIM related from business and technical support services from the point when a customer or prospect calls until the point when the customer can use the service on the device that contains the eSIM needs to be supported via the following channels:

- USCC Corporate Store
- Agent

- National Retail
- DF (Web/Telesales/B2B)

Use Case Scenario #8a: eSIM Service Agreement

Current State: Our current support services does not include eSIM device related service agreements such as Advanced Exchange/DP+ etc..

Future State: The ability to support eSIM related device services such as DP+/Advanced Exchange via the related channels:

- USCC Corporate Store
- Agent
- National Retail
- DF (Web/Telesales/B2B)

Use Case Scenario #9: eSIM Device Return

Current: Our current device return process does not include eSIM devices.

Future: The ability for a new or existing USCC customer to return their eSIM device.
Associate/NDC will complete return process and each eSIM device profile will be deactivated from TOPS and follow the deprovisioning/deactivation process. Eligible devices will be able to be re-used for service programs as applicable.
The returns will follow the 15-day excellence guarantee and related flows.
A returned device will no longer require the eSIM profile for that customer to be stored on the server.

Use Case Scenario #10: eSIM Deactivation Process

Current State: Our current deactivation process does not include eSIM deactivation process.

Future State: The ability to deactivate an existing customer's eSIM device so that the customer can activate their eSIM device on a different carrier. This device will no longer require the eSIM profile for that customer to be stored on the server.

Use Case Scenario #11: Customer with eSIM device ports out to a different carrier

Current State: Our current port process does not include eSIM related devices.

Future State: The ability to remove the eSIM profile for an existing customer who decides to leave USCC and wants to activate their eSIM device on a different carrier.
Associate will remove device profile from TOPS and follow the deactivation process.
This device no longer requires the eSIM profile for that customer to be stored on the server.

Use Case Scenario #12: Customer with eSIM device wants to cancel services

Current State: Our current port process does not include eSIM related device related cancellation.

Future State: The ability to cancel services for an existing customer who decides to cancel services with USCC.
Associate will remove device profile from TOPS and follow the cancellation of service related process. This device will no longer require the eSIM profile for that customer to be stored on the server.

Note: Will need to understand if the eSIM needs to be freed.

Use Case Scenario #13: Re-use the eSIM

Current State: Our current process does not include eSIM related reusing.

Future State: The ability to recycle the eSIM when a existing customer is changing devices or troubleshooting. This will provide significant cost saving to the business.
Associate will perform the necessary actions to recycle the eSIM based on options provided by Engineering/IS.

Use Case Scenario #14: New eSIM Product Introduction

Current State: Our current process does not include eSIM related commercial processes.

Future State: Device Marketing will follow existing New Product Introduction (NPI) processes to launch new eSIM devices assuming that EPC support and the device OEM has implemented eSIM in a way that meets our solution requirements (e.g., LPA on device is compatible with USC's SM-DP+).

Note: We will need to review the current form and see what new fields/modifications will need to happen for eSIM compatible devices

Functional Impacts

Please describe any functional area impact this project may have. Fields with * are required to filled out.

☒Operations

Christopher Barton
We will need a solution to assess any frontline impacts. There will be a lot of Frontline impacts especially we will have both physical and embedded sims at the same time and understanding the differences in TOPS , customer interaction etc…. training, HTGs, updates to various cellsite areas will all need to be looked at. Various channels will be impacted differently.

☐Finance –

Kristina Bothfeld
No impact identified, further assessment is required

☒Accounting/Tax –

Person consulted*Amana Alouati/John Vann

Currently physical SIM cards are processed and received as part of inventory via current Supply Chain processes.
There are separate SKUs assigned to track them as part of inventory. There are various SAP postings related to AR, Revenue, Inventory, Cost of Goods Sold recorded for these SIM Card SKUs and some of them are sourced from TOPS transactions.

In the future, there may need to be a feed interfaced from Genco to SAP to account for the eSIM Inventory and to track Cost of Goods Sold since there is no physical inventory to receive. Accounting will need to have the journaling handled automatically in SAP with no manual intervention. There should be reconciliation processes developed to ensure that we are properly accounting for the eSIM inventory between SAP and our vendor, Genco, and accruing expense as appropriate at the end of the each monthly reporting period.

Need to understand if project Eagle's approach can be leveraged from this perspective.

Tax: If the eSIM card is integrated into the device and we are not separately charging for the eSIM card then there are no tax issues.

☐Revenue Recognition – Amana/Marcia

Person consulted* Amana Alouati

Revenue processes for SIM cards have to be identified and updated for eSIMs since there is no longer a separate SIM sale transaction. At this time there is no impact to Rev Rec, but solution will further dictate.

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☒Marketing

Adriana Sillero

Description of impact

☒Engineering

Person consulted* - Nars Haran, Jim Nowakowski

Assessment of Gemalto's SM-DP+ solution and integration with TOPS

☒IS

Person consulted* - Andy Sofronas, Johnson Daniel

Assessment of TOPS and interaction with Gemalto's server. Ideally, the eSIM once activated will be handled in system as a SIM.

☒Supply Chain

Person consulted*

Jeong Lee

At minimum devices setup will need to be modified to account the fact that device will not have a physical SIM card.

Current procurement of esims will need to be assessed to make sure the process can support high volumes.

- Pairing:
  - Currently, LTE flag triggers physical SIM kitting at the NDC. We will need to differentiate physical SIM kitting to eSIM in master data and evaluate TOPs to SAP to NDC processes.
- Forecast:
  - What is the projected forecast for the next 3 years?
- Provision:
  - Need to understand how devices will be provisioned – is it similar to Project Eagle?
- Procure to Pay:
  - eSIM management ownership will need to be evaluated similarly to Project Eagle - assumption: not inventoried.
  - Need to understand the eSIM consumption – one time use or ability to reuse.
  - Need to understand future eSIM procurement process from a replenishment perspective.
- Reverse Logistics:
  - Need to understand how to unpair eSIM from device – is it similar to Project Eagle?
  - Need to ability to overwrite or clear eSIM during repair process
- Sourcing:
  - New contract for SOW change and pricing

☒Legal

Person consulted

Jason Zimmer

Description of impact

As per legal there are no implications related with the project from legal perspective.

☒SANDS / EDW / Reporting

Person consulted* Rupert Santos

An assessment is required to confirm all current fields capture for handsets and connected devices flow to EDW. If there is no change on this, then reporting will not be impacted.

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☐Third Party Vendors
Person consulted
Description of impact
☐Other: _____
Person consulted
Description of impact

Reporting
This section is to identify any potential impact this project may have on data and reporting needs as well as cost to the project. To view a **sample** demonstrating how to fill out this section, please click **here**.
For questions, contact Chaitanya Deshmukh (Chaitanya.Deshmukh@uscellular.com), Michael Calvin (T.Calvin@uscellular.com), Ruperto Santos (Ruperto.Santos@uscellular.com), or Jonathan Reinisch (Jonathan.Reinisch@uscellular.com).

- Describe the new functionality desired and list the business processes that we intend to measure or analyze (benefit realization for business case). In other words, answer the question "what are we trying to list, count, or summarize?"

  - **Key reporting need to address:** eSIM implementation reporting will need to include provisioning of eSIM related devices, rollout, migration etc. We will need to understand the successful implementation of provisioning and usage of eSIM related devices.

  - **Reporting intent/Purpose:** This data will be used to understand successful provisioning and implementation of eSIM device solution and to help us with data forecasting & capacity planning from eSIM device perspective.

  - **Long term or short usage**: This data will be used on a monthly cadence to understand month over month, and year over year KPIs that will indicate successful implementation.

  - **Forward looking or historical:** Since these new priority levels don't exist today, this would be release going forward.

  - Is Exception Reporting required (e.g. for Operations to answer the question is the frontline following methods & procedures)? Note: we expect MCSO/ODI to comment on Exception Reporting.
  - **Exception Reporting**: Exception reporting will be required for this initiative.

  - **Audit risk without reporting**: No audit risks are believed to exist at this stage.

  - If specific KPI metrics are known at this time, list new and modified KPI/metrics and measures. *This information will help to inform us which data subject areas are involved, leading to much stronger solution options.*
    - ❖ Define each KPI/metric and measure in business terms.

    - ❖ Document scenarios for newly defined KPI and measures or modified ones.

  - **Audience:** Marketing, Finance, MCSO, RA

- **3rd Party vendors reporting impact:** None identified so far
- **Project activity:** Subscribers will be provisioned to use eSIM based devices
- **Existing report modifications:** Current reports may be modified for eSIM related reporting.

Digitalization Strategy Alignment

1. Please comment on any new sets of customer/usage/other data that will result from this effort. Do you foresee any other potential uses of that data beyond this project?
2. Are there any particular security concerns or sensitivities you are aware of for the data this project will access or generate?
3. Will this initiative introduce or rely on any processes/steps that require human interaction (in other words, are not automated)? More specifically, will swivel chair, double entry, or any new M&P, etc. be needed?

Fraud Mitigation

1. Please comment on any considerations or steps that need to be taken to ensure that any systems being updated or introduced by this initiative are protected from fraudulent behavior. Is there any reporting or other safeguards that may be needed?
2. Similarly, please comment on any new manual procedures that might create potential for fraudulent activity. Is there any reporting, approval chains, etc. that may be needed to mitigate fraud risks?

Initial Assumptions

1. Gemalto's SM-DP+ server installed for Project Eagle can be re-used for primary devices with eSIM.
2. Point of Sale provisioning can occur without MDM or any special orchestration.
3. All device reporting will be independent of whether it has an eSIM or pSIM

Initial Risks

1. No risks identified at this time.

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High Level Scope

***In*:**

- ⇒ Activation of eSIM capable devices, in standalone mode, through PoS and through the device pairing process with one-number assignment.
- ⇒ All supply chain operations related to handling eSIM on devices
- ⇒ Provisioning of the eSIM on a device, and giving a choice to add One Number functionality or treating as a standalone device
- ⇒ Provisiong new and existing customers
  - o Provisioning eSIM on any handset
- ⇒ Lifecycle management of eSIM capable devices
- ⇒ eSIM capable devices in scope will be:
  - o Wearables (Samsung Gear, other)
  - o Apple iPhones
  - o Android smartphones
  - o Automotive
  - o IoT devices
  - o Android Tablets
- ⇒ Reporting updates if required
- ⇒ Change Management and communication
  - o Update process for activation to retail customers
  - o Update process for activation to business customers
  - o Update process for activation to demo accounts
- ⇒ eSIM inventory management with Gemalto and processing of the eSIM file in TOPS and the network will not be impacted, but adjustment to Operational processing dealing with physical SIM cards will be revised.
- ⇒ Engineering and IS flow updates
- ⇒ BYOD support of eSIM capable devices

***Out*:**

- ⇒ Equipment Serialization and Logistics/Reverse logistics processes.
- ⇒ Any provisioning scenario outside of Point of Sale e.g., mobile application needed MDM, etc.
- ⇒ The Apple Watch solution will not be impacted by this eSIM solution implementation
- ⇒ M2M/Connected Devices

Benefits

May select more than one.

- ☒Growing Revenues/Adding Customers (e.g. increased ARPU)
- ☒Managing/Reducing Costs (e.g. loss on equipment savings)
- ☐Compliance
- ☐Productivity Gains
- ☐Reducing Churn/Increasing Customer Satisfaction
- ☒Investing in the Future
- ☐Driving Accountability
- ☐Other: _____

Note: If your request addresses a compliance issue, please provide details of the regulation, how much the penalty will be (one-time fee and/or recurring fees), when the regulation takes effect, and when fees are due in the description below.

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Benefit Description

Please describe the key benefits that will be realized as a result of this initiative including dollar amounts. Please also specify risks associated with not implementing the IR, if any, e.g. obsolescence.

USCC will maintain a competitive portfolio by having access to new device categories that will only support eSIM. If eSIM is not implemented, USCC will be uncompetitive compared to tier 1 carriers and will lose subscriber market share.

NPV (5-Year) - $521.7M

How is it calculated?

Time period:

- *5-year business case (2019 – 2023)*
- *Aligns with timing of benefits and costs*

Rates:

- *Tax rate of 26% (per latest guidance from TDS).*
- *Discount rate of 8.0% (USCC's weighted average cost of capital).*
- *100% bonus depreciation (all CapEx is expensed in Year 1 per guidance from TDS).*

Hard Benefits:

- *Hard benefits of **$966.4M** were included over the 5-year period, which reflect the contribution margin that will be secured with access to eSIM-only handsets. As the portfolio of eSIM-only devices increases, gross adds will be lost and customers ready to upgrade will defect, driving a substantial loss in contribution margin over the 5-year period. Assumed an eSIM-only mix of retail handset transactions starting at 10% in 2019 and rising to 80% in 2023. Note that these portfolio mixes assume an iconic eSIM-only Motorola and Google device launch in 2019 and an eSIM-only iPhone launch in 2022.*

List any additional non-quantifiable benefits:

Qualitative (soft) benefits not included in the business case include the following:

1) ***Reduced churn and incremental gross adds** – correlated to maintaining and offering a larger portfolio of products that would be compatible across carriers while also compliant for the industry standards predicted to take place over the next few years.*
2) ***SIM portability** – eSIM would eliminate the physical tasks related to installation, transfer and removal of traditional SIMs, which could lead to higher customer web transactions and/or less calls into the call center.*
3) ***New sales channels** – as eSIM adoption increases, USCC would be able to partner with new sales channels, such as Amazon or other retail outlets, and leverage these channels for incremental sales.*

External Functional Implementation Costs

Non Identified.

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Acceptable IS Implementation Cost
Impacts to TOPS should be small (<$500K)

Acceptable Engineering Implementation Cost
Impacts to Engineering should be minimal (<$250K)

Funding Source
☐Enterprise Initiative Fund (EIF)
☒Functional / Departmental Budget: Please specify which department - Product Management Marketing
☐Other (e.g., vendor funding, etc.): _____
☐ TBD

Ongoing Costs
Please list the amount of any ongoing post-implementation costs to the best of your knowledge, if applicable.

Please check the box to confirm that any ongoing costs as a result of this implementation are (or will be) applied to the functional budgets' responsibility, not the EIF, and will be documented in the Business Case. ☒

Timeline Considerations
Please describe when this initiative needs to be launched and why and if any dependency exists.

- We are expecting Apple to launch a device with eSIM in Q4 2018.
- Samsung Wearable: Business need to support commercial launch in June 2019
- iPhones: The 2018 Fall iPhone (XS, XS Max and XR) all support eSIM, and USC expectation is that all tablets and handsets in 2019 will also support eSIM
- Google: The Pixel 3 is a BYOD device that supports eSIM, and all 2019 devices that will be stocked by USC will also support eSIM
- 5G: USCC is working on an initiative to commercialize 5G in 2019, and there is a chance that the 5G device may require eSIM support. Device Marketing does foresee that a percentage of 5G devices in 2020 and beyond will require eSIM support.

Submitted on: 4/19/18

Revision History

Author	Date MM/DD/YYYY	Version	Description of Changes
Mohammed Masiuddin / Joe Varghese	11/16/2018	V1.8	Based on updates from IS and Business

Approvals
By approving this document, "I agree that this document represents our best understanding of the scope for this project today. I agree that this version of the document represents the baseline scope. I agree to make future changes to the baseline scope through the project's defined change control process. I realize that future changes to scope might require a renegotiation of the cost, resources, and schedule commitments for this project."

Any changes to scope post-approval will require approvals through the Change Control Management process established for this project.

Name	Team	Project Role	(A)pprover	Approval

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			(R)eviewer	Date
		Business Owner		
		Business Sponsor		
		Requestor		
		BRM		
		Architect		