GSMA™

Open Gateway API Roadmap

A common glue between Cloud Infrastructure and Earth Networks

Cloud Infrastructure

Enhancing virtual ‘Cloud’ applications & services to enable Web3.0

Open Service (Northbound) Common Network APIs

via CAMARA GitHub & GSMA Agreement Templates

Open Federation APIs (East West Federation & Interconnection)

via GSMA Operator Platform Specifications & Agreement Templates

GSMA™ Telco Finder (N-E-W)

CAMARA Service APIs (N)

tmforum Operate APIs

Exposing network capabilities: Identity : 5G Capabilities : AI/Data : Privacy : Security

Earth Networks

Specification by Doing Code, not documentation

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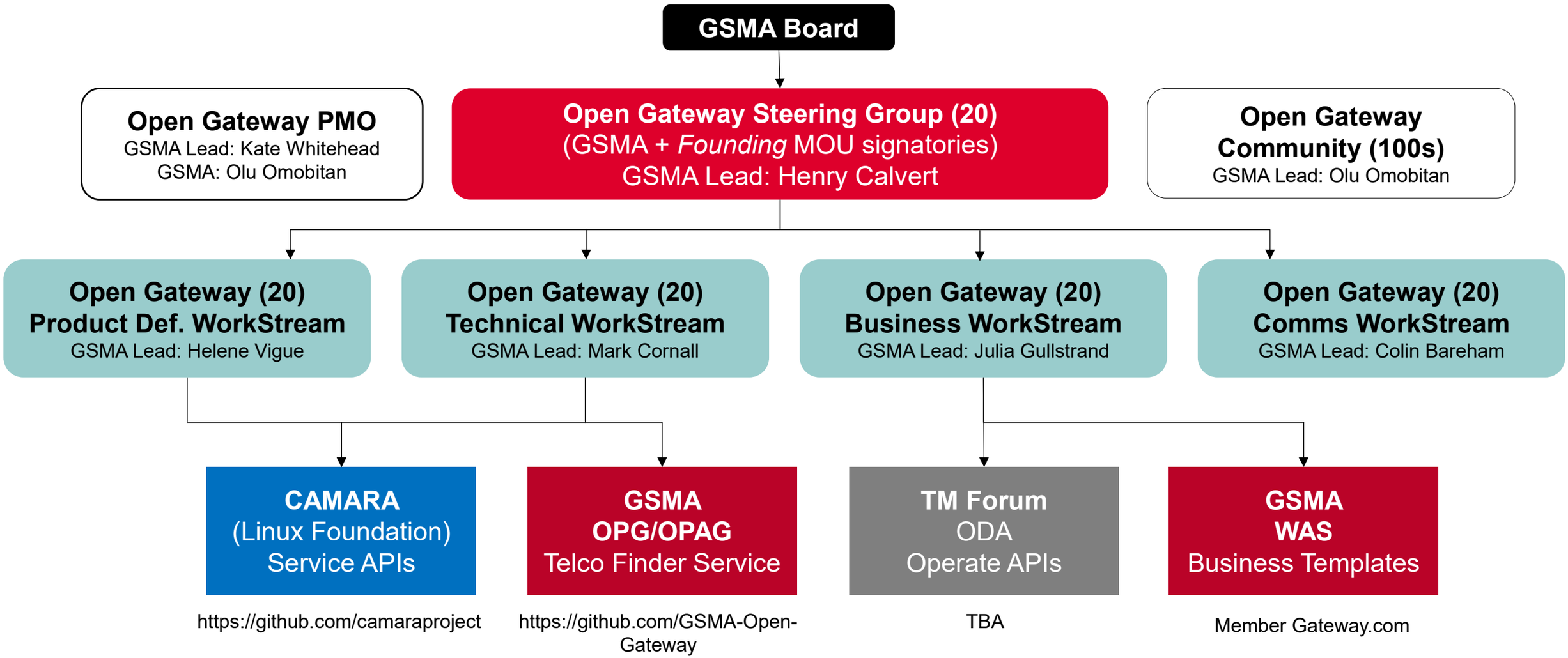
GSMA Open Gateway Work Streams



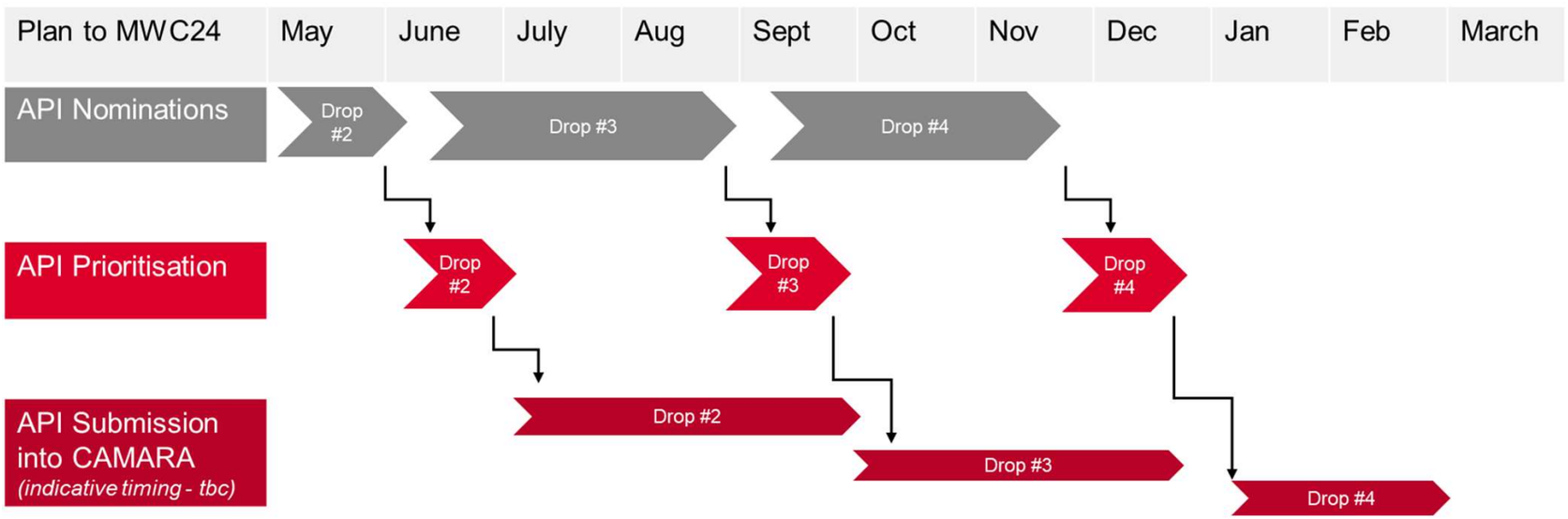
(Max Contributing Operator Size)

Open Gateway input into CAMARA Roadmap

Process

Open Gateway Product WS nominate then prioritise a list of services to be delivered by Open Gateway APIs.
The priority items are then submitted as candidates to CAMARA backlog through the usual CAMARA process.
The definition process in CAMARA will clarify the API features and parameters.
(Operators remain free to submit APIs to CAMARA backlog directly in parallel)

Plan



Drop#2: 12 prioritized services

Work in Progress

Identity, Location & Customer Information

Device location

- Device Location
- **Verify Location (postcode/area input)**

Number Verification

- SMS 2FA
- Number Verify

KYC

- **KYC Match**
- **KYC Fill-in**

Device and network status

- Device Status
- **Quality Status / Network Status**

Network Signals

- SimSwap
- **Call Line Busy**

Device Information

- **IMEI Fraud**
- **Device Swap**

Payments Account & Billing

- Carrier Billing

IoT

- **Device Management**

Communications xR

- **SMS API**

Connectivity Network Slicing

- QoD
- **QoD (boost)**
- **Traffic Prioritization / HomeDeviceQoD**

Data Centres Edges

- Edge Discovery
- Traffic Influence

General

- **Subscription / Notifications**

Legend:

- Existing CAMARA API (MWCB 23)
- **Drop #2 Priority service** (might be delivered by more than one API)

Base agreements

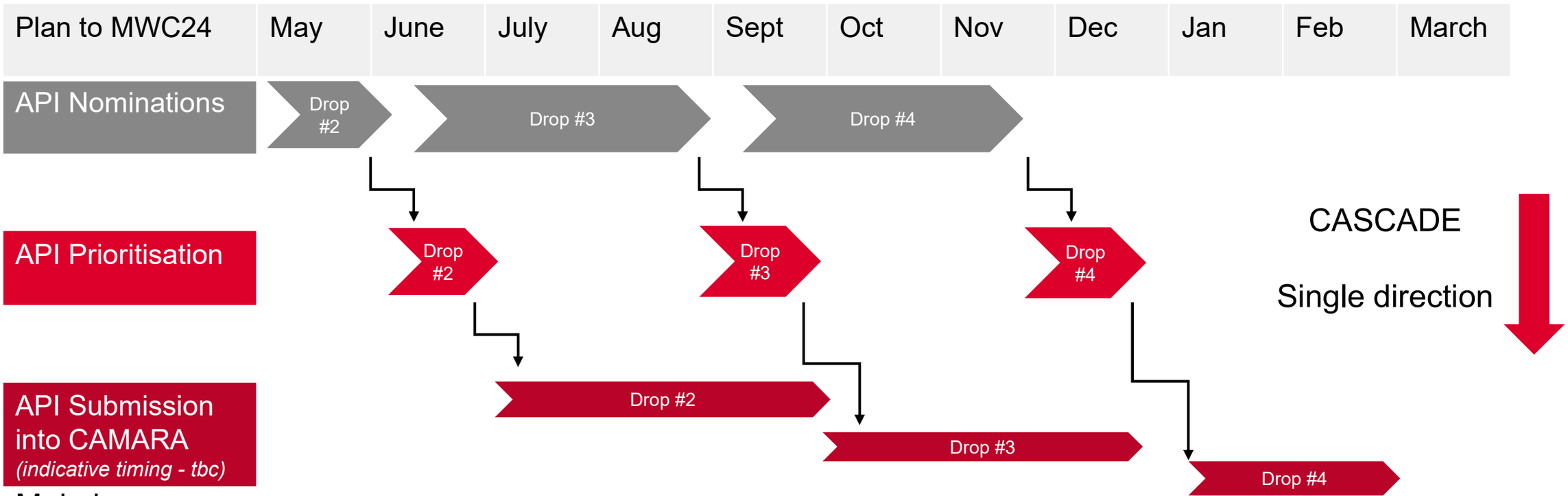
Base requirements for the API definition

- **CAMARA** is the **only repository** where companies & operators specify the **developer-facing APIs,** for those OGW services targeting developers, making sure their semantics are dev-friendly.
- **CAMARA will provide one single API** definition for each OGW service. Situations in the past (e.g. two API flavours Carrier Billing) shall be avoided, since **OGW looks for homogeneity**.
- **CAMARA will control the complete evolution** and versioning/maintenance of the APIs.

Responsibilities of operators or companies participating in:

GSMA OGW Product WS	• Define OGW services, specifying product features and listing applicable (covered) use cases. This information is captured in the OGW service descriptor. • Maintain these OGW services in a 'wish-list', and prioritise them according to different criteria (e.g., technical readiness, mass of developers, industry interest, etc.). • Insert prioritised OGW services into CAMARA backlog → **MNO ownership** • Provide support on any market/product question from CAMARA Sub-Projects → **MNO ownership**
CAMARA LF	• Define APIs for OGW services captured in the CAMARA backlog. These APIs can include "Service APIs" and "Service Mgmt APIs". • Manage versioning of APIs.

Current GSMA – CAMARA WOW



Main issues

- **Issue #1:** CAMARA API family template (what it is submitted to CAMARA backlog) is not fully aligned with OGW service descriptor
- **Issue #2**: No possibility for CAMARA to provide feedback on received drop (assuming that CAMARA will cover the whole scope of the drop is quite unrealistic).
- **Issue #3**: No possibility for CAMARA to raise market/product questions to OGW during API definition phase.
- **Issue #4**: No clear picture on how OGW (product track) and CAMARA (development track) need to work together to ensure release cadence for APIs.
- **Issue #5:** CAMARA not able to provide insights of new APIs (initially out of OGW) that could be useful to create new OGW services.

Call for action

Issues

1.

Agree on the need to propose a OGW GSMA Service template to align with the required input to be provided to CAMARA

- Considering the requirements in order to focus on the Service that wants to be specified, not in the technical definition that will come from the output of CAMARA.

#1

2.

Agree on an agile interaction model for collaboration between OGW Product WS and CAMARA. This model will be build upon three tenets:

- Bidirectional communication
  - Solves issue #2
- Async communication
  - Solves issue #3
- Framed in API release cycles
  - Solves issue #4
  - Important to manage expectations of developers + operators with regards to **when** new API releases will be available, and **with which scope**.

#2, #3 and #4

3.

Propose regular workshops from CAMARA (EUC and TSC) to provide insight on new API/technologies that CAMARA is working on, to have inputs from

- Providers and companies contributing with code/APIs
- API customers to provide feedback or insights to Open Gateway.

#5

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Back up

Drop #2: Prioritised services

Item	Draft summary definition(s) *to be improved*
28.Verify Location (postcode/area input)	Checking if a device is in a defined Area, including cell location, postcode or any administrative code as input parameter for the validation range.
22.Subscription/Notifications	Subscription mechanisms for several APIS for developers to receive proactive notifications about different events on those APIs information.
07.Quality on Demand (QoD) (boost)	Ability to identify service gaps and prompt for available subscription plans and temporary bandwidth boosts as demands by the content to be delivered.
44.KYC Match	Provides results of matching specific information submitted by the API invoker against the mobile subscriber information, which can include MSISDN, name, postal code / address, birthdate, national identity document, drivers' licence, etc. No PII returned.
16.SMS API	Sending a SMS to a customer and receiving delivery receipt.
02.Traffic Prioritization / HomeDeviceQoD	Facilitates the prioritization of traffic / modification of quality and service levels for a particular isolated network or for specific devices on the network, including fixed access/WiFi network.
27.Quality Status / Network Status	The API enables App Developers to define intents in the form of policy thresholds for QoS metrics against the device and the application service. The API service will alert consumers if and when the policy has breached. It returns connectivity quality information, where issues can arise from exhausted data tariff, device version, network issues…
35.Device Swap API	Detect user has changed device in the past X days.
34.IMEI Fraud	Ability to identify and manage IMEI-based fraud
45.KYC Fill In	Provides the API invoker with mobile subscriber information, which can include MSISDN, name, postal code / address, birthdate, email address, etc.
42.Call Line Busy	Ability to understand if a customer (user) is on a call.
18.Device Management	Enables users and developers to manage connected devices, including features like device registration, activation, firmware updates, and remote device control.

Action 1

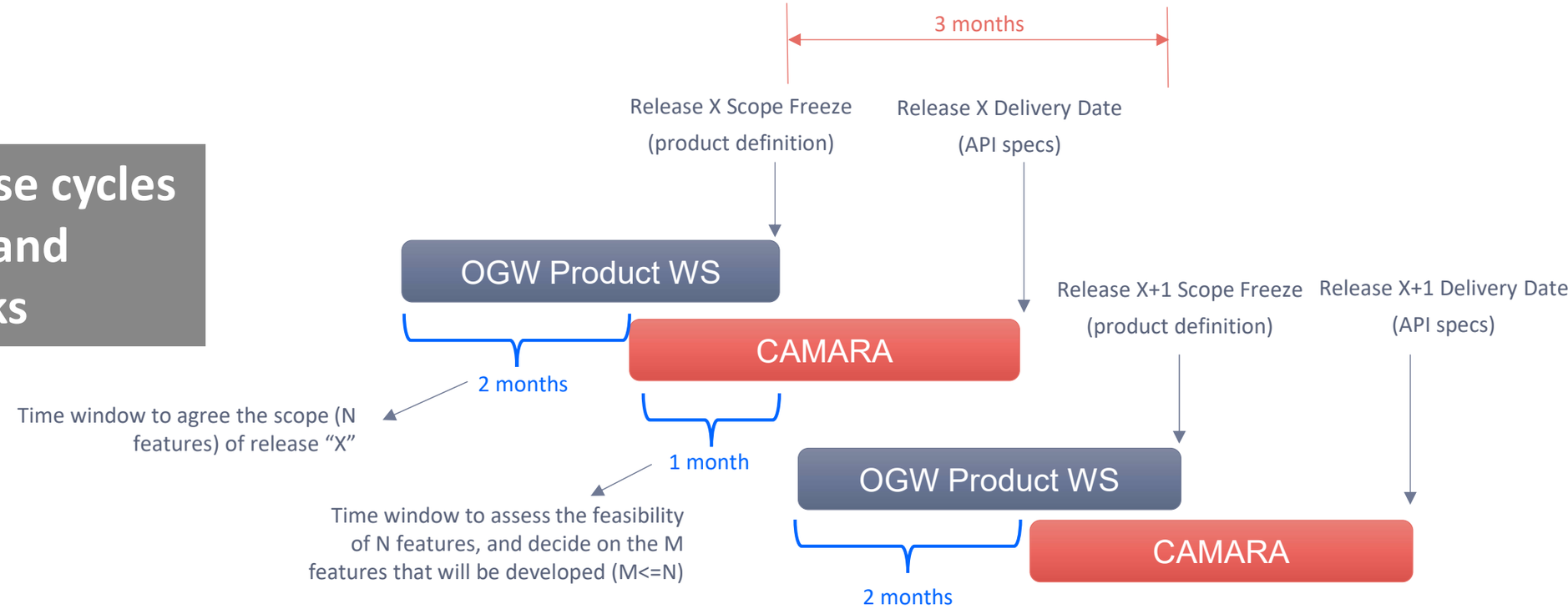
Field	Description
API family name	Name of the API or API family
API family owner	Company submitting the API proposal.
API summary	High level description / scope of the API or API family, and two/three examples of in-scope business cases.
Technical viability	Identify the underlying network/cloud capabilities which are needed for the support of this API or API family, relating these capabilities them to standards maturity. Example: this API requires the availability of NEF with this Rel-15 "X"feature.
Commercial viability	Specify the availability of commercial or (industrialized) open-source solutions for the identified network/cloud capabilities. NOTE: If open-source, provide a publicly available reference/link to the actual solution, and specify the version under consideration.
YAML code available?	YES / NO.
Validated in lab/productive environments?	YES / NO. If YES, specify if it was lab network or productive network.
Validated with real customers?	YES / NO. If YES, specify how many customers participated in the evaluation, and what their use cases were. NOTE: It is not mandatory (though recommendable) to specify the name of the customers.
Validated with operators?	YES / NO. If YES, specify how many operators participated in the evaluation. NOTE: It is not mandatory (though recommendable) to specify the name of the operators.
Supporters in API Backlog Working Group	List of supporters. NOTE: That shall be added by the Working Group.

OGW template

Field	Description
~~**API**~~ **Service family name**	Name of the Service or Service family
~~**API**~~ **Service family owner**	Company submitting the Service proposal.
~~**API**~~ **Service summary & use cases**	High level description / scope of the Service or Service family, and two/three examples of in-scope business cases.
Technical viability check	Confirm if the technical analysis has been done to ensure the feasibility of the service, in terms of the technology required to enable the service in the underlying network elements. E.g. Device location can be retrieved from LMF
(new) Service Parameters, Service Input-output (and examples)	Identify the required inputs of the proposed Service (e.g. MSISDN, Administrative code) and the expected output (e.g. location verified [boolean]).
Commercial viability	Specify the availability of commercial or (industrialized) open-source solutions for the identified network/cloud capabilities. NOTE: If open-source, provide a publicly available reference/link to the actual solution, and specify the version under consideration.
~~**YAML code available?**~~	~~YES / NO.~~
Validated in lab/productive environments?	YES / NO. If YES, specify if it was lab network or productive network.
Validated with real customers?	YES / NO. If YES, specify how many customers participated in the evaluation, and what their use cases were. NOTE: It is not mandatory (though recommendable) to specify the name of the customers.
Validated with operators?	YES / NO. If YES, specify how many operators participated in the evaluation. NOTE: It is not mandatory (though recommendable) to specify the name of the operators.
(new) Priority	Specify the Service priority as part of Open Gateway project, based on expected commercial launch and markets to cover.
Supporters in Service backlog Working Group	List of supporters. NOTE: That shall be added by the Working Group.

Action 2

3-month API release cycles involving product and development tracks

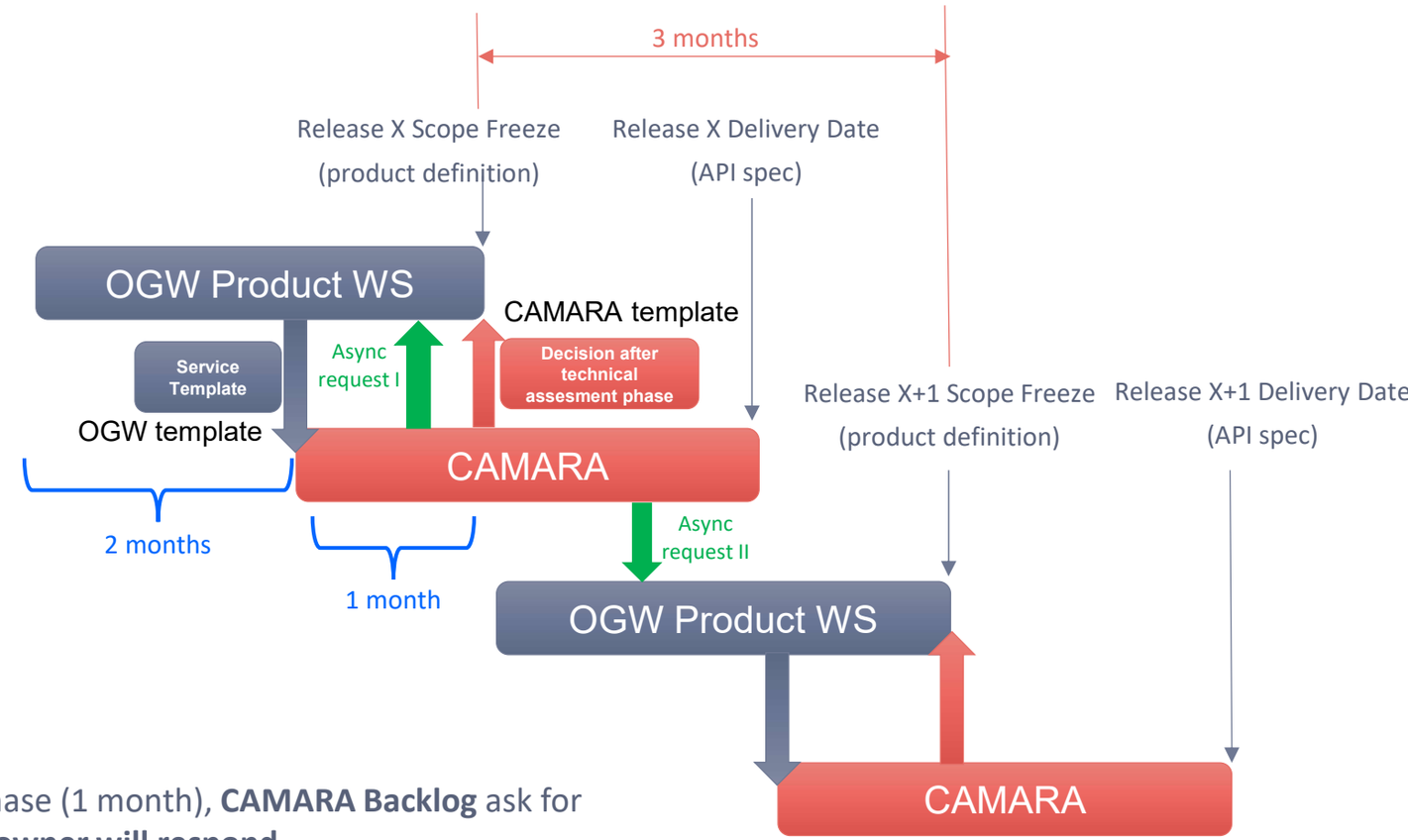


Summary

- OGW Product WS == product track; CAMARA == development track
- OGW Product WS activities: for a certain release, agree on the functional scope of the API, specifying product features and listing covered use cases.
- CAMARA activities: for a certain release, assess technical viability (based on product track definitions) and proceed with API specification, developing viable capabilities.
- Time windows:
  - 2 months for OGW to decide on the scope of Release "X". Proposal is sent to CAMARA.
  - 1. month for CAMARA to assess technical feasibility of Release "X", and decide whether OGW proposal needs to be downscoped or not. Decision is informed to OGW. OGW freezes release "X" scope with this decision. Feedback also includes whether existing API is affected or new APIs (and subgroup) need to be created.
  - After Release "X" Scope freeze….
    - CAMARA will proceed with the API definition of Release "X" during the next two months.
    - OGW will continue working in the next release (Release "X+1")

Action 2

3-month API release cycles involving product and development tracks



Validation Points

- Communication is bidirectional
- Communication can be asynchronous. Two types
  - Async request I-> during the technical assessment phase (1 month), **CAMARA Backlog** ask for clarification to OGW Product WS. **OGW Product WS owner will respond.**
  - Async request II -> anytime during the API definition phase (2 month), **CAMARA Sub-Project** ask for clarification to OGW Product WS. **OGW Product WS owner will respond.**
- Communication based on release cycles
  - Process is a continuous, not a cascade
  - It is proposed to go for 3-month cycles, while this needs to be double checked with CAMARA TSC (once constituted), to see if agreeable for them.