Asset monetization with API management

How CSPs can generate new revenue streams via API access

Introduction

For communications service providers (CSPs), it is critical to maximize the effectiveness of operations support systems (OSS) and business support systems (BSS) integrations and use existing telecommunications data and services for revenue generation. Red Hat's API-centric agile integration lays the foundation for exposing and monetizing such assets via API management. TM Forum, a global association for communications service providers and suppliers, indicates that service providers can reap $1.2 trillion in cumulative operating profits from the open API economy (based on data from the World Economic Forum).[1] With API-centric integration and effective API management, service providers can create new revenue channels and self-service partner ecosystems, increase developer and partner innovation, and consolidate integration components for reduced maintenance.

Red Hat's API-centric agile integration solution for OSS/BSS processes and systems combines third-party vendor products with service provider-owned systems. The Red Hat® solution provides a single security framework that supports self-service developer or partner onboarding portals with API catalog, interactive API documentation, and configurable, flexible, and reusable monetization models.

Challenges addressed with API-centric agile integration

Today's service providers are faced with:

- **Stagnant revenue.** Revenues from traditional services have plateaued[2] despite data usage increasing more than 50% each year.[3] Service providers need new technologies for new services and revenue streams.
- **New competitors.** Public cloud providers have redefined the datacenter and colocation business, while over the top (OTT) competitors, including Amazon, Facebook, Google, and Netflix, have subverted the mobile and data subscription models by offering services directly to subscribers over service provider networks.
- **Commoditized connections.** When service provider networks operate as "dumb pipes," you have no control over the user experience and cannot prioritize or offer additional services. Nor can you access metadata related to the services and applications that customers use. The provider controlling the user experience adds additional network traffic with no additional revenue benefit to the network owner. Service providers need technologies to help deliver and monetize new services as well as provide connectivity.

Business benefits of API-centric agile integration

In typical OSS/BSS infrastructures, there are many valuable telecommunications assets that service providers can effectively expose, secure, and monetize with API-centric agile integration. Additionally, new assets can be integrated and created in novel ways and then rapidly exposed and monetized.

1 *TM Forum, "TM Forum Open APIs: Enabling a zero-integration API economy," May 2018. https://inform.tmforum.org/research-reports/tm-forum-open-apis-driving-global-digital-transformation/.*

2 *GSMA, "The Mobile Economy 2018" (Figure 7 Mobile revenue outlook). https://www.gsma.com/mobileeconomy/.*

3 *"Ericsson Mobility Report Q2 2018 Update," August 2018 (Mobile traffic Q2 2018).* https://www.ericsson.com/en/mobility-report/reports/june-2018.

An API-centric approach typically yields four business benefits:

1. **Increased agility:** Creates OSS/BSS building blocks and related subsystem integrations as reusable components, accessible via well-defined APIs. New systems and services can be created quickly by reusing these existing components.
2. **Faster rate of innovation:** Exposes telecommunications data and services to external parties in a more secure, controlled way. External developers can access telecommunications assets and create innovative services together with the service provider.
3. **Larger ecosystem:** APIs allow partners and third parties to interact with a service provider in a faster and more effective manner (mostly self-service). This enlarges the potential ecosystem to provide a much broader range of customer services.
4. **Additional revenue generation:** With API management, you can generate new direct and indirect revenue channels and revive existing channels.

Direct and indirect revenue models

Increased agility, accelerated innovation, and an expanded ecosystem all contribute to indirect revenue generation, which includes more effective distribution of content via APIs and brand establishment.

Charging for API access to certain assets contributes to direct revenue generation. API management offers many different ways to achieve this, such as flat fees (typically monthly), tiered models (third parties pay more to access more), freemium, and pay-as-you-go consumption models.

Implementing API-based asset monetization for service providers with Red Hat

To address service provider challenges, the Red Hat agile integration solution combines three key pillars:

- Managed APIs to increase reusability
- Distributed integration to deliver greater flexibility
- Containers to increase scalability

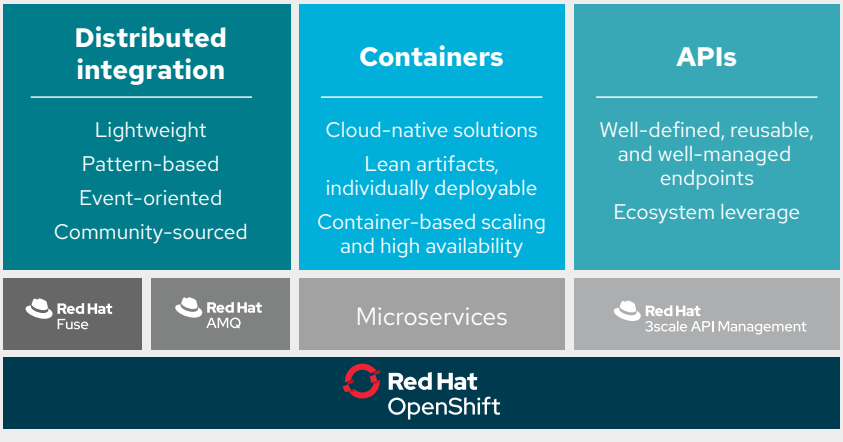

Figure 1. Red Hat agile integration solution delivered through Red Hat products

The Red Hat API-centric agile integration solution includes API monetization support. Red Hat agile integration provides a flexible model for various API access levels (or scopes) and a wide array of customizable monetization models. Typical access scopes can include, but are not limited to:

- **Private.** This scope covers APIs that are typically accessible only internally. The scope of these APIs is the broadest and may also include access to sensitive data.
- **Partner.** This scope is the business-to-business (B2B) interace that typically has access to a subset of the private scope functionality. The partner scope has high potential for strong, direct monetization.
- **Public.** This scope allows public developer access to service provider APIs. The focus is providing easy access with very low entry barriers. This scope typically has less potential for direct revenue generation, but has high potential for indirect monetization – for example, by building a positive brand image or sparking innovation for new products or services.

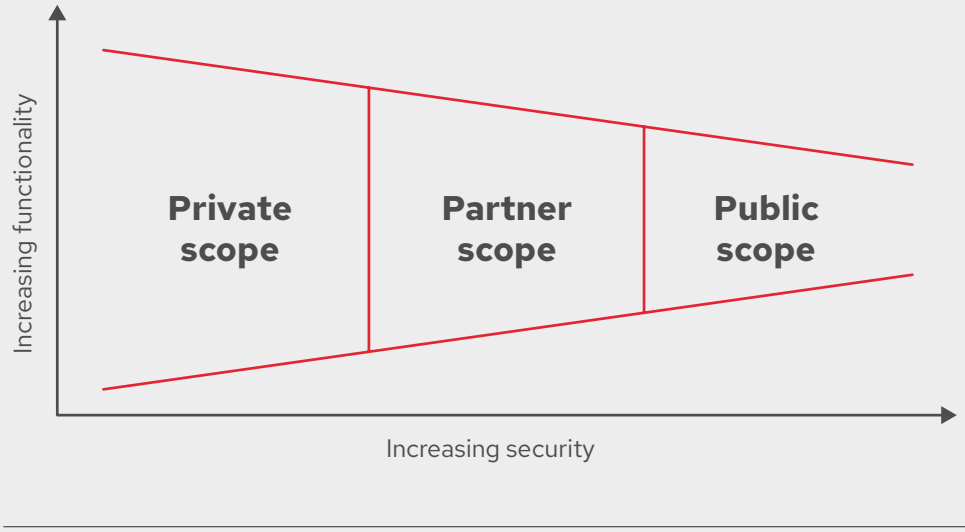

Figure 2. API access scope related to functionality and security

The API-based monetization workflow leading to new API-generated revenue is the same for all segments: internal (private), partner, and public. At the end of the standard API life cycle, service providers must use quantitative and qualitative analysis and identify which APIs provide the most customer value. Based on that analysis, service providers can plan and implement a new revenue model with the API management platform.

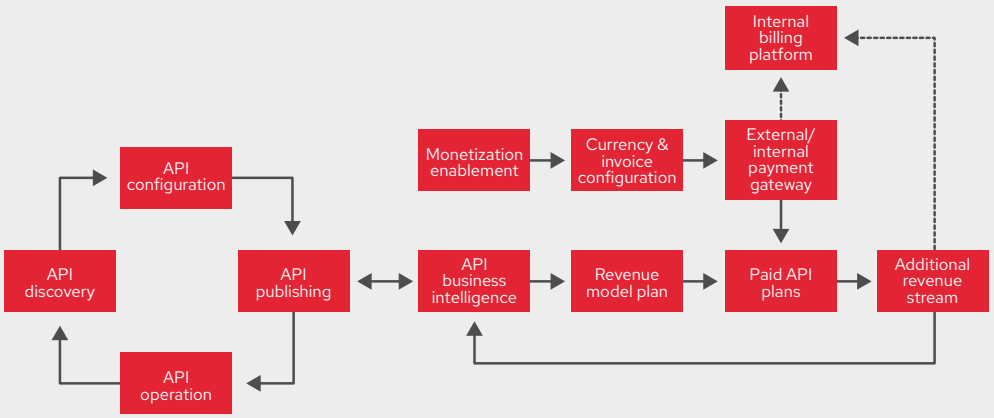

Figure 3. API-based asset monetization workflow

The following diagram provides a conceptual architecture showing how the various components of Red Hat's API-centric agile integration solution fit into service provider OSS/BSS infrastructure. The Red Hat agile integration solution provides the glue for legacy systems, OSS/BSS, network systems, and internal and external end-user applications and also takes advantage of modern microservice-based architectures. In a typical telecommunications architecture, Red Hat agile integration components are included in all areas of the stack.

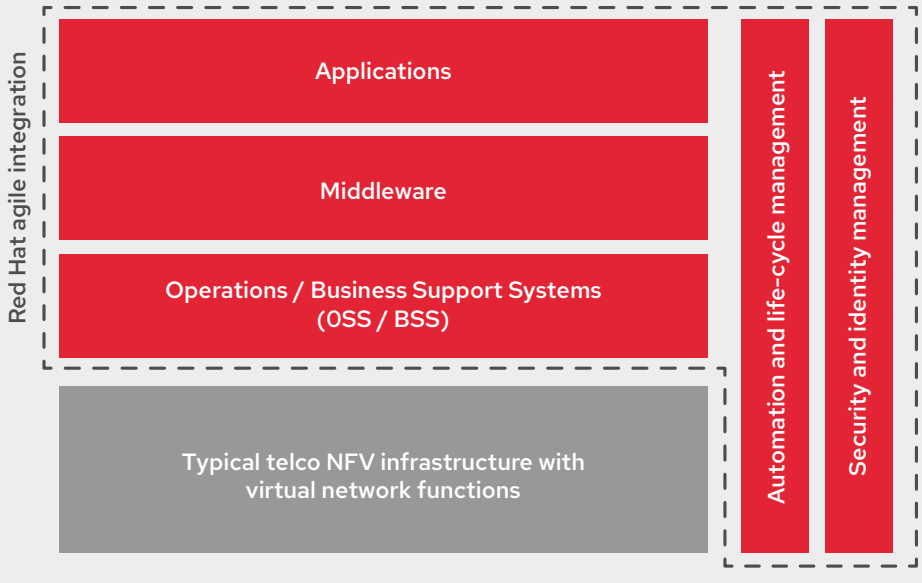

Figure 4. Agile integration architecture for asset monetization

Monetization use cases for service provider APIs

Service providers must focus on how they can add value to the developer ecosystem and customer experience. Examples of value-added services include:

1. **Direct carrier billing,** also known as **direct mobile billing, direct to bill,** and **direct operator billing,** is accessible to any smartphone owner having a subscription or a prepaid account with the mobile operator. Transactions are more secure and do not require personal or banking information. Purchases are added to the mobile bill or prepaid account without additional cost to or action from the consumer.
2. **Connected car.** Consumers want their travel experiences to include services that are powered by the Internet of Things (IoT) and smart technologies. To meet this goal, service providers create partnerships with rental car services, car manufacturers, and other related vendor services to consistently meet drivers' needs as they arise. Service providers can capitalize on their central role as the owners of the connectivity to become the focal point of a vendor ecosystem offering new services for increased consumer satisfaction.
3. **Geo-fencing.** Geo-locating information retrieved by service providers can be used to determine the legality and compliance of individuals wishing to participate in gambling activities based on their location and applicable laws.
4. **Mobile health (mHealth).** By partnering with healthcare providers and insurance companies, service providers are uniquely positioned to provide healthcare services to subscribers. The smartphone can serve as the always-on access point for subscribers to use these services. Corresponding APIs provide this capability for mobile devices as well as for interconnecting with partners.
5. **IoT applications.** Mobility is an inherent feature of service providers' products and is a key requirement for a large variety of IoT applications. This effectively positions service providers to offer APIs for building IoT apps.
6. **Augmented reality (AR)** is a hot topic in the industry and is inherently mobile, with value mainly achieved in mobile scenarios. This represents another strong use case for a service provider API offering by combining location and user preference to build a customized navigation experience.
7. **Subscriber information.** API access to subscriber data is extremely valuable for security and targeted marketing. Due to privacy requirements, APIs must be designed carefully and securely.
8. **Network metrics.** A very basic but very useful API can allow controlled access to the underlying telecommunications network to retrieve quality and status metrics.

Accelerating API monetization

For long-term success, service providers must have an API monetization plan that:

- Provides an outstanding developer experience, which includes a self-service portal and low or no entry barriers for API access and use. Service providers must provide the tools that developers need, when they need them, including testing capabilities, documentation, and online forums. API changes must be communicated effectively and in advance. Developer adoption is crucial for successful execution of an API strategy.
- Identifies the developers using your APIs. Developer segments should be created, and the needs of each developer segment should be addressed accordingly.

- Creates and expands a partner ecosystem based on continual analysis of joint revenue growth areas.
- Tests, refines, and implements revenue models that are consumer-friendly, transparent, and beneficial for partners.
- Uses IT operations data and collaboration with the partner ecosystem for new application development to maximize value for internal and external services.
- Internally adopts a more agile mindset, which allows service providers and stakeholders to rapidly publish new apps and services.

Next steps

To initiate or expand asset monetization via API-centric agile integration, Red Hat Discovery Sessions help communications service providers analyze direct or indirect revenue opportunities. Red Hat also offers a more comprehensive API-centric integration program that involves multiple themed sessions. This program identifies business objectives and how to translate them into technology requirements and actionable items. With Red Hat agile integration, service providers have the foundation for exposing APIs, effectively monetizing assets, and establishing partner ecosystems.

Conclusion

Red Hat's industry-recognized[4] API-centric agile integration solution directly addresses service provider challenges, with a comprehensive solution that exposes telecommunications assets via managed APIs to a customizable set of developer segments. Red Hat has proven success with its API-centric agile integration solution, helping service providers bridge the gap between API-centric OSS/BSS integration and generating new revenue streams or reviving existing streams.

To learn more about Red Hat's offerings for communications service providers, or to get in touch with a Red Hatter, visit our telecommunications industries page.

4 *"Agile Integration for Today's Cloud-Enabled Enterprise." IDC (sponsored by Red Hat). October 2017. https://www.redhat.com/en/engage/cloud-enabled-enterprise-20171107*

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