

What's New / Futures in IBM DataPower & API Gateways

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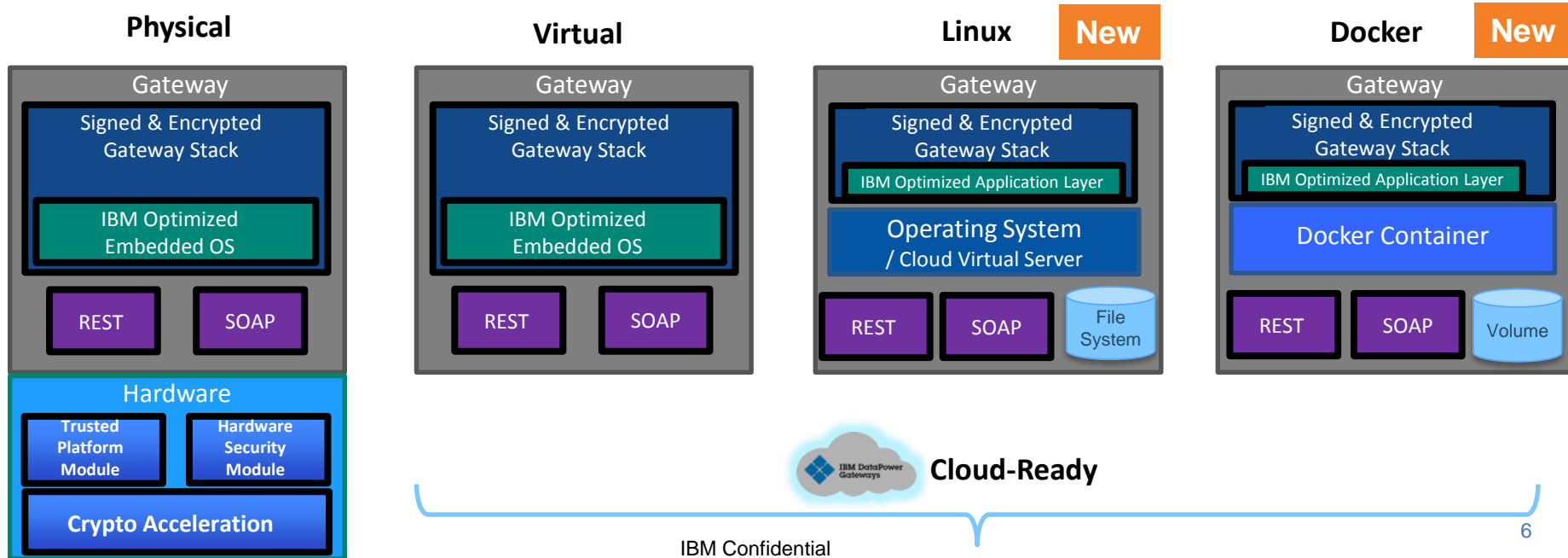
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Agenda

- ❖ **What's New in DataPower Gateway**
- ❖ DataPower Operation Dashboard (DPOD) Overview
- ❖ IBM DataPower Gateways Futures

DataPower Form Factors & Management Interfaces

- **Physical appliances:** All-in-one (HW / SW), DMZ-ready with **physical security** including crypto acceleration and optional hardware security module (HSM)
- **Software:** **virtual appliance**, application (**Linux**) & container (**Docker**) provide flexible deployment options for both cloud and on-prem environments

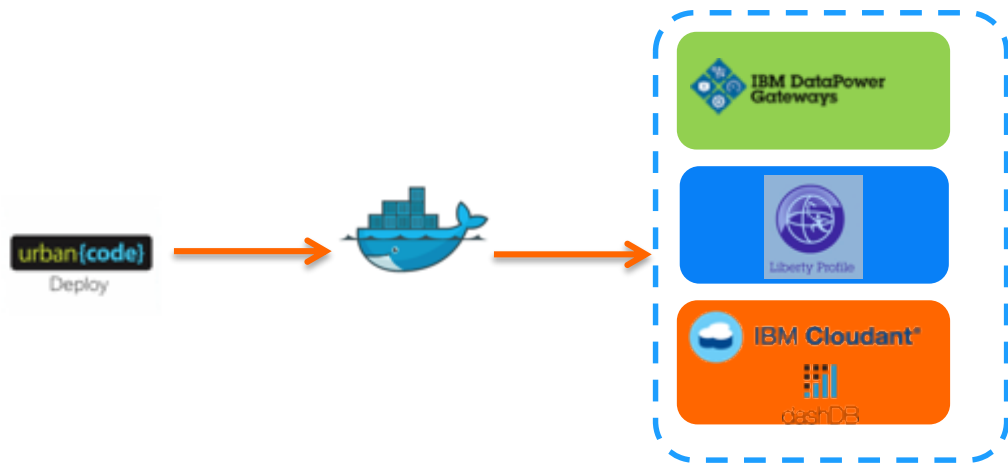


Run DataPower on Any Cloud to Co-locate with Backends

- Hybrid cloud strategies are evolving to **optimize operational efficiencies** and **provide cost savings**
- Gateway solutions must be **co-located with systems of record (SoR)** to deliver robust performance and security
- DataPower Gateways can be deployed **natively on the most popular clouds**, and **anywhere you can run Linux**.

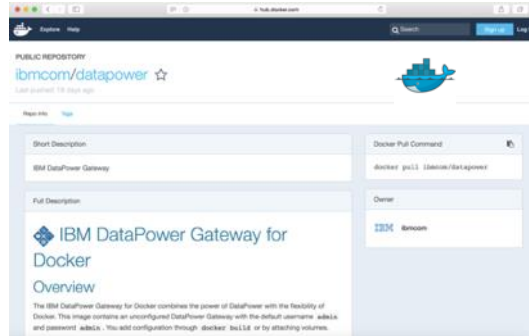
Easily integrate Gateways in a DevOps toolchain

- Gateways are an integral component of your digital solution and should be **integrated into a DevOps toolchain** to support **continuous integration & delivery**
- DataPower Gateways can be easily **integrated into many DevOps pipelines** (**UrbanCode**, **Jenkins**, **Travis CI**, etc...) to provide consistent deployments and automated unit-testing.



No-charge Edition for Developers

- **DataPower Gateway Developer Edition** available at **no charge** without IBM support for Developers
 - Evaluate, demonstrate, develop & unit test without cost
 - Restricted to development and unit testing, no expiry period
 - Supports Docker for Mac and Docker for Windows
- Functional/Integration/System testing, quality assurance, benchmarking, staging, production workloads requires license for Non-Production & Production editions



<https://hub.docker.com/r/ibmcom/datapower/>



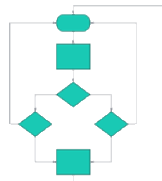
Tenant Isolation of Gateway workloads

Run multiple Gateway instances with runtime isolation (memory and cpu) for enhanced operational resiliency



Flexible API Connect upgrades without disruption to traditional business

Perform firmware upgrades to API Connect managed gateway workloads independently from traditional DataPower gateway workloads



New Multi-step Action

Parse action to perform dynamic threat protection to help protect against malicious messages.



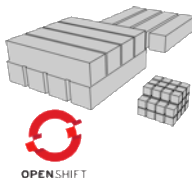
Enhanced API Security

New flexible OAuth consent configuration and enforcement of single-use tokens for protecting access to mission-critical API resources .



New Long-Term Release (LTS) support stream

Extended support cycle with maintenance only fixes for easier upgrade planning and execution

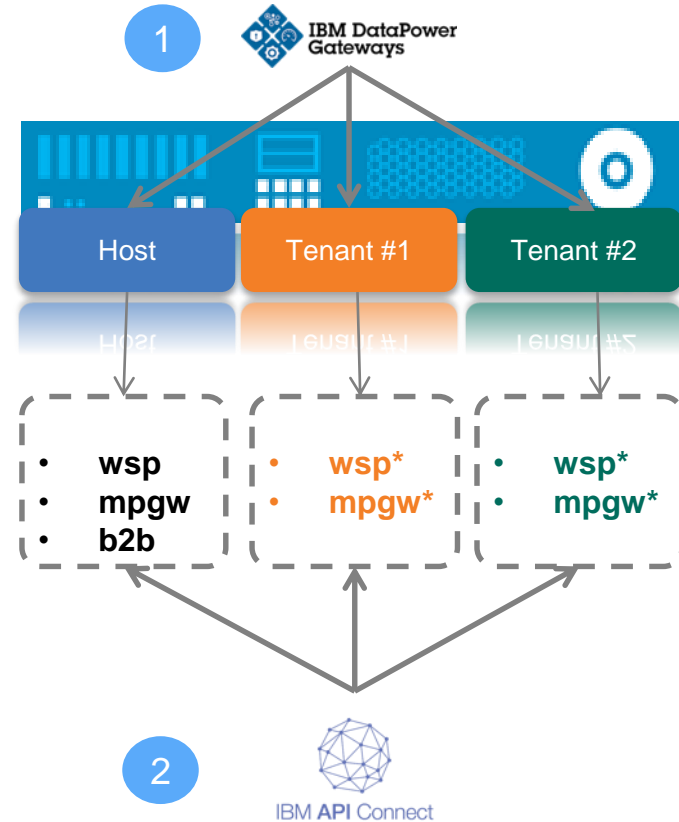


Enhanced Docker automation & Cloud container platform support

New flexible permissions on Docker and support for container orchestration platforms for increased DevOps automation and deployment flexibility

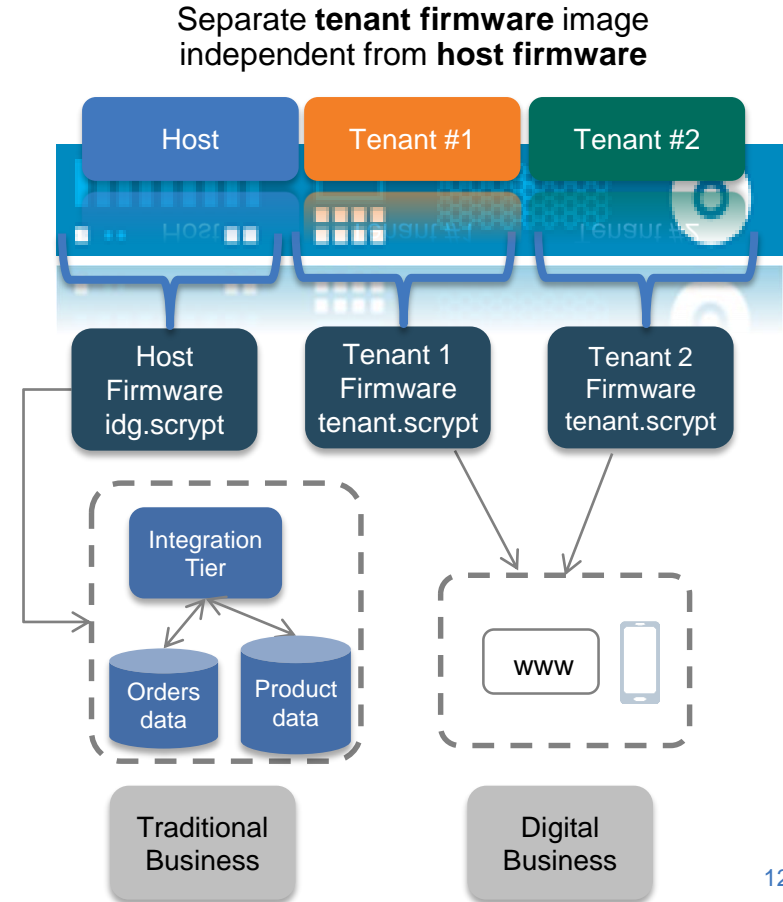
Tenant Isolation Now Provides Gateway Workload Segregation

- **Isolate workloads** at a system resource level by running two additional tenants on IBM DataPower Gateway (IDG) physical appliance
- **Runtime isolation** of DataPower Gateway workloads based on criticality, operational ease, or line of business requirements
- **Concurrently running** API Connect managed workloads with traditional DataPower workloads with runtime isolation
- **Tenants limited to API workloads**
 1. No support for B2B, ISAM and TIBCO EMS modules
 2. No access to hardware resources (HSM, crypto acceleration & RAID)



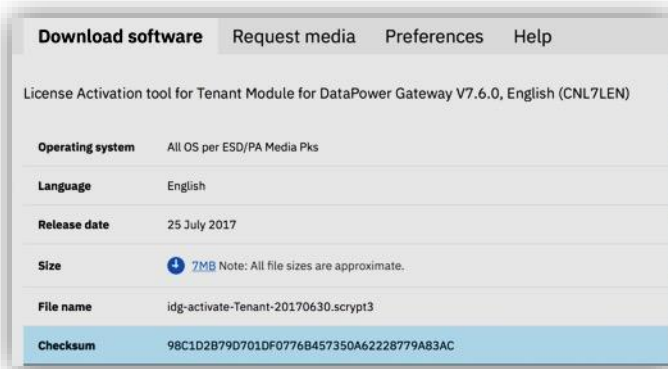
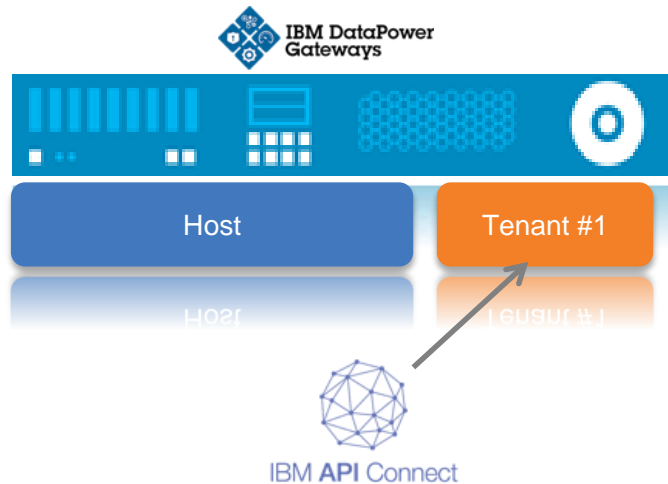
Flexible Upgrades Minimize Disruption To Traditional Business

- **Enhanced operational resiliency** when performing infrastructure upgrades
- **Independently apply firmware upgrades** to tenants running API or traditional workloads
- **Zero disruption to workloads** on neighboring tenants during firmware upgrade for a tenant
- **One tenant for no-charge** for API workloads on DataPower physical appliance, managed by API Connect



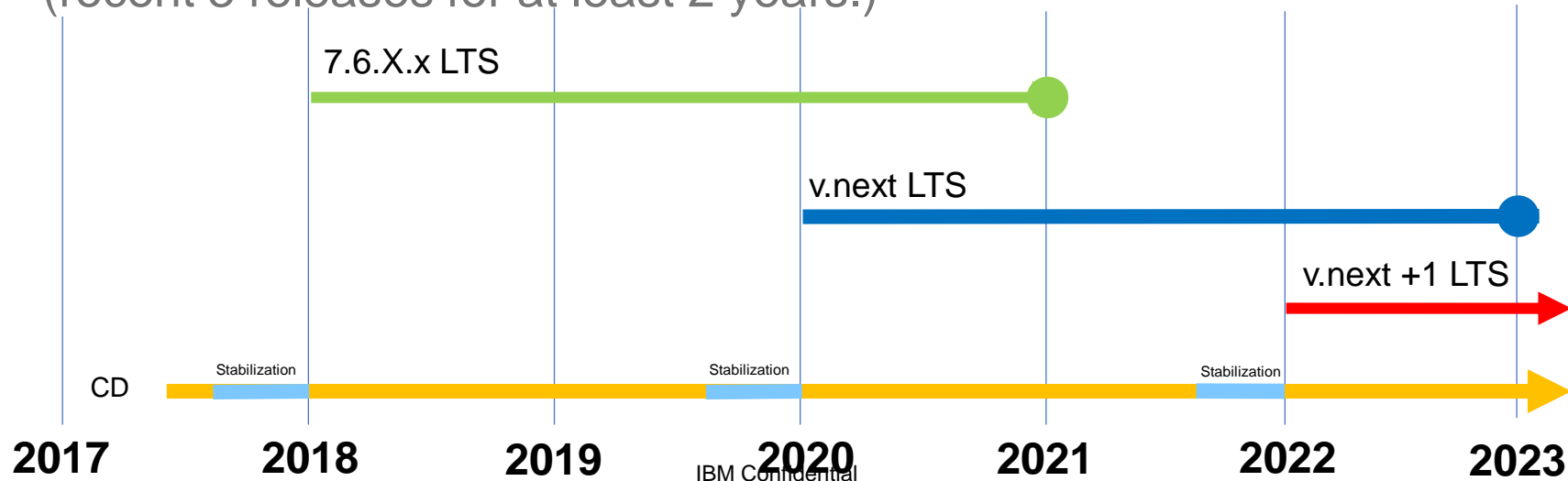
No-Charge Tenant with API Connect Enterprise

- **One tenant for no-charge** for API workloads on each DataPower Gateway physical appliance (Type 8436, aka 9006), managed by API Connect Enterprise
- **Encourage API Connect adoption** by allowing two-speed IT for traditional DataPower users
- **Independently apply firmware upgrades** to tenants running API or traditional workloads
- **Zero disruption to workloads** on neighboring tenants during firmware upgrade for a tenant
- **Activator available on Passport Advantage** to enable tenant isolation for API Connect Enterprise users



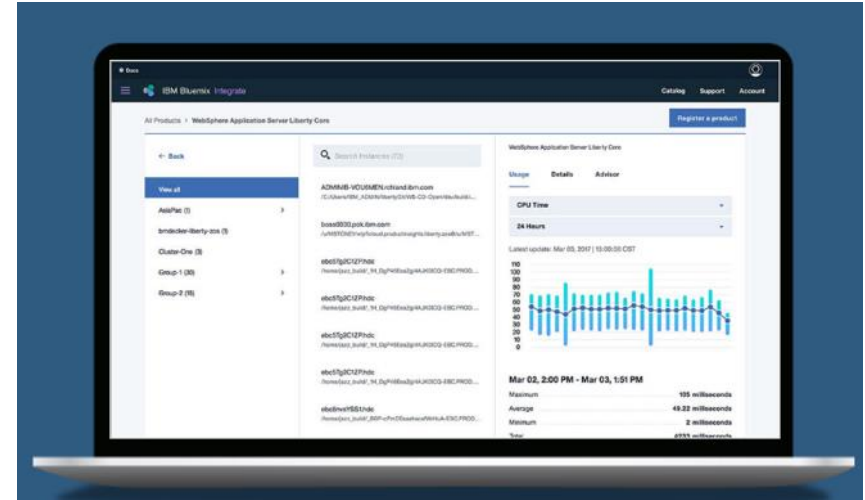
DataPower Long Term Support (LTS) Model

- Three versions supported at once (2 LTS, 1 CD)
 - LTS released every **2 years** & supported for **3 years from GA**
 - Single Continuous Delivery (CD) stream with the latest enhancements and fixes
- Previous firmware versions (7.5.x & 7.2.x) follow existing support lifecycle (recent 3 releases for at least 2 years.)



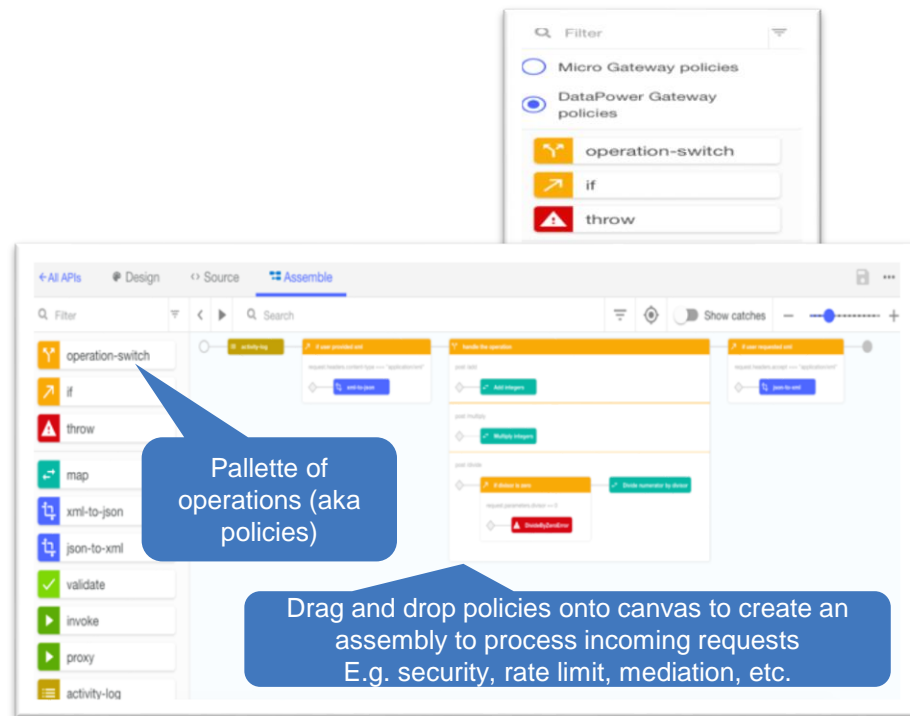
Gain insights into DataPower Gateway usage with Product Insights.

- DataPower Gateway integrates with the **IBM Bluemix Product Insights** to help you gain insights into your DataPower Gateway infrastructure.
 - Collects the registration and usage metrics from DataPower Gateways and stores them securely within IBM Cloud infrastructure



Enhanced laptop experience with DataPower in API Connect Toolkit

- Develop and test all API security, traffic management and mediation policies on laptop with **built-in DataPower support** in API Connect Toolkit for increased developer efficiency
- **Flexible deployment target:** Easily publish APIs to on-premises or cloud API Connect deployment after testing
- **Live update support:** immediately test policy changes without restarting the Gateway
- DataPower and Toolkit **integrated logging** for quick problem identification
- Embeds and utilizes free **Docker-based DataPower Gateway** for dev and unit testing



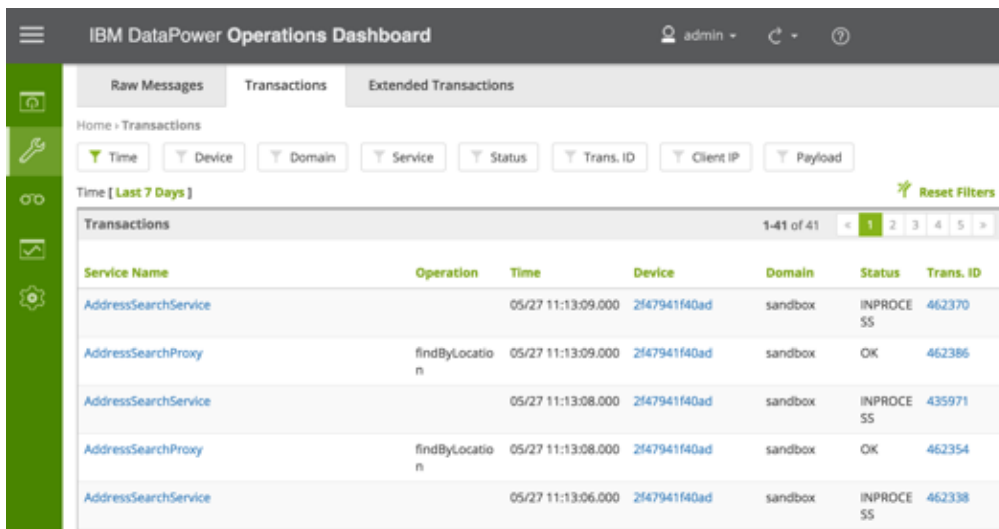
<https://www.npmjs.com/package/apiconnect>

Agenda

- ❖ What's New in DataPower Gateway
- ❖ **DataPower Operation Dashboard (DPOD) Overview**
- ❖ IBM DataPower Gateways Futures

DataPower Operations Dashboard (DPOD) Overview

- Provides centralized, deep operational insights for quicker problem determination
- Real-time visibility of transaction details to enable self-service DevOps troubleshooting



IBM DataPower Operations Dashboard

admin

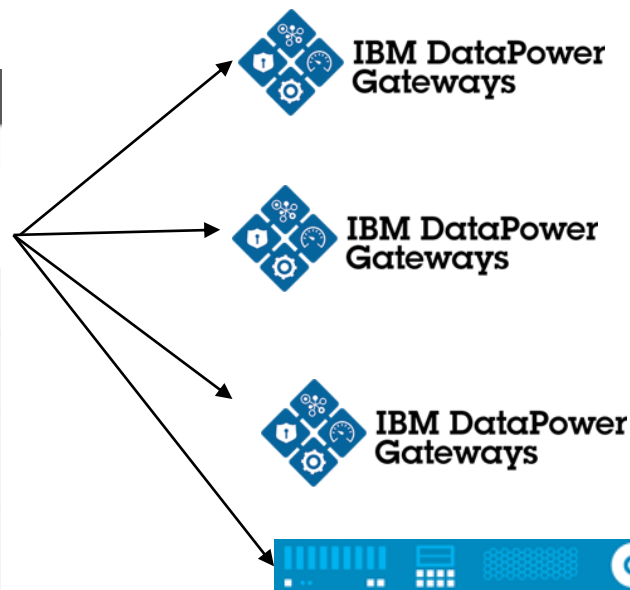
Raw Messages Transactions Extended Transactions

Home > Transactions

Time Device Domain Service Status Trans. ID Client IP Payload

Time [Last 7 Days] Reset Filters

Service Name	Operation	Time	Device	Domain	Status	Trans. ID
AddressSearchService		05/27 11:13:09.000	2f47941f40ad	sandbox	INPROCES	462370
AddressSearchProxy	findByLocation	05/27 11:13:09.000	2f47941f40ad	sandbox	OK	462386
AddressSearchService		05/27 11:13:08.000	2f47941f40ad	sandbox	INPROCES	435971
AddressSearchProxy	findByLocation	05/27 11:13:08.000	2f47941f40ad	sandbox	OK	462354
AddressSearchService		05/27 11:13:06.000	2f47941f40ad	sandbox	INPROCES	462338



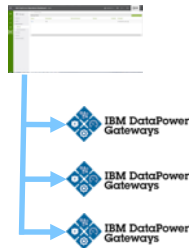
IBM DataPower Operations Dashboard 1.0.5

API Connect Integration



DPOD displays only APIC transactions and their analysis, and API specific dashboards for efficient troubleshooting and performance analysis

Configuration Management



Manage your DataPower Secure back and synchronize* configurations across gateways



External APM Integration*

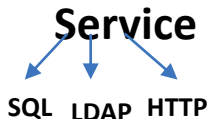
Push aggregated data to external APM solutions or log aggregators

Service URL Calls Dashboard



Immediately see the statistics of service URL calls for a quick analysis of the performance

Improved Side Call Analysis



DPOD now offer latency analysis for calls to external resources within a transaction, for a quicker fine tuning

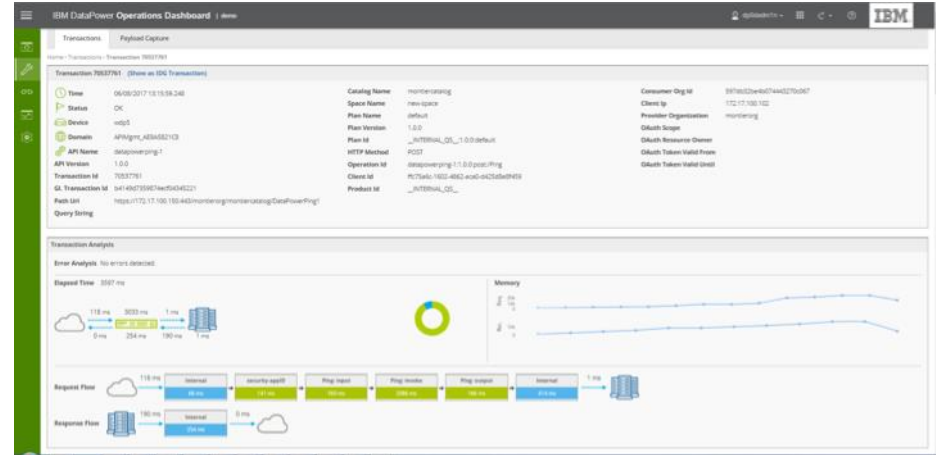
HA Improvements



DPOD now supports limited Active/Active scenario giving more flexibility of use in these environments

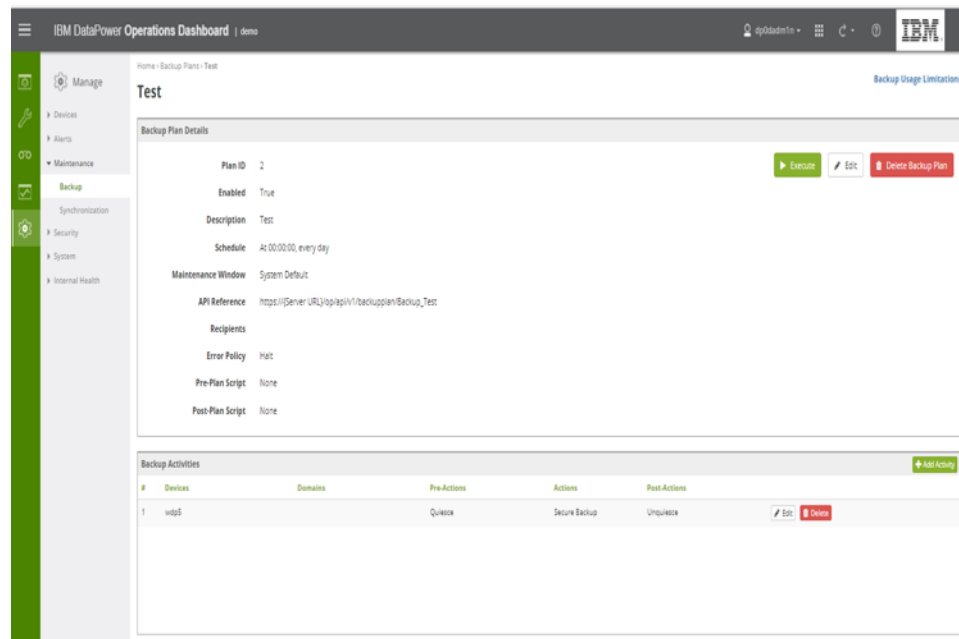
Troubleshoot and Analyze APIC Transactions

- Analyze transactions generated by APIC v5.0.7.2 or newer
 1. Show only the APIC transactions by API
 2. Filter the transactions based on APIC fields like name and version, OAuth scope and token, and more
 3. Quickly troubleshoot errors
 4. Latency analysis for each policy executed for fine tuning of the performance
 5. Payload capturing
 6. See when an API was executed last



Configuration Management

- Perform Secure Backup
 1. Back up a group of gateways or domains
 2. Secure backup of gateways or domains
- Limitations
 1. Backup and Synchronization do not support the Docker form factor
 2. HSM, ISCSI or RAID data is not backed up

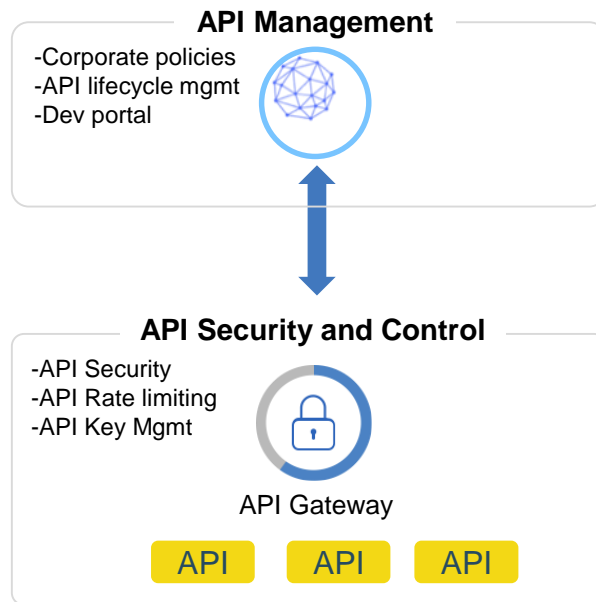


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- ❖ **IBM DataPower Gateways Futures**

Start with API Gateway and mature to API management

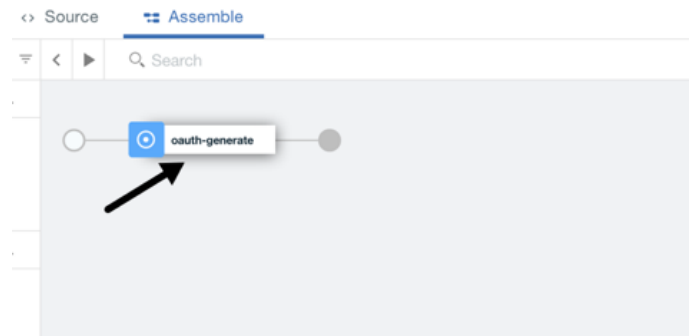
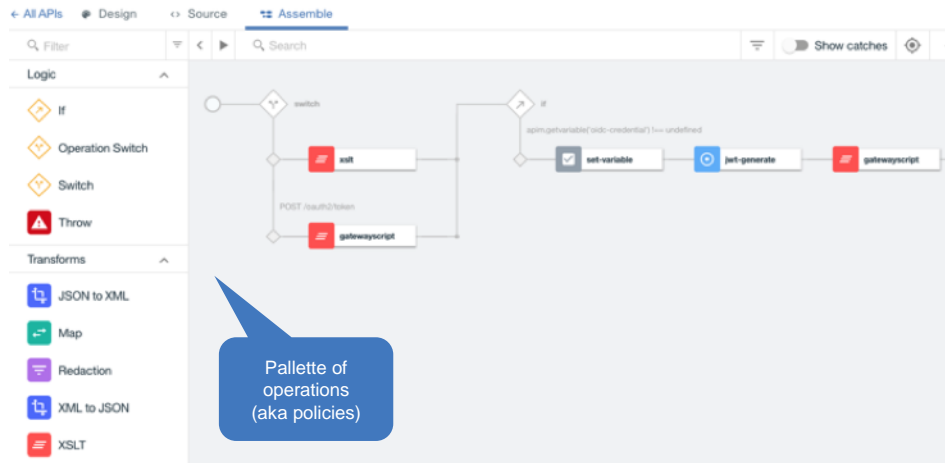
- Allow developers to quickly expose APIs without API management to enable quicker-time-to-market & prototyping
- Use API gateway to security and control API independently from API manager (ie dev team run API gateway-only)
- Connect to the “mothership” – once API implementation matures, enable API Gateway to connect to the API manager for additional API management and governance



Performant & Flexible new API Gateway, built on DataPower

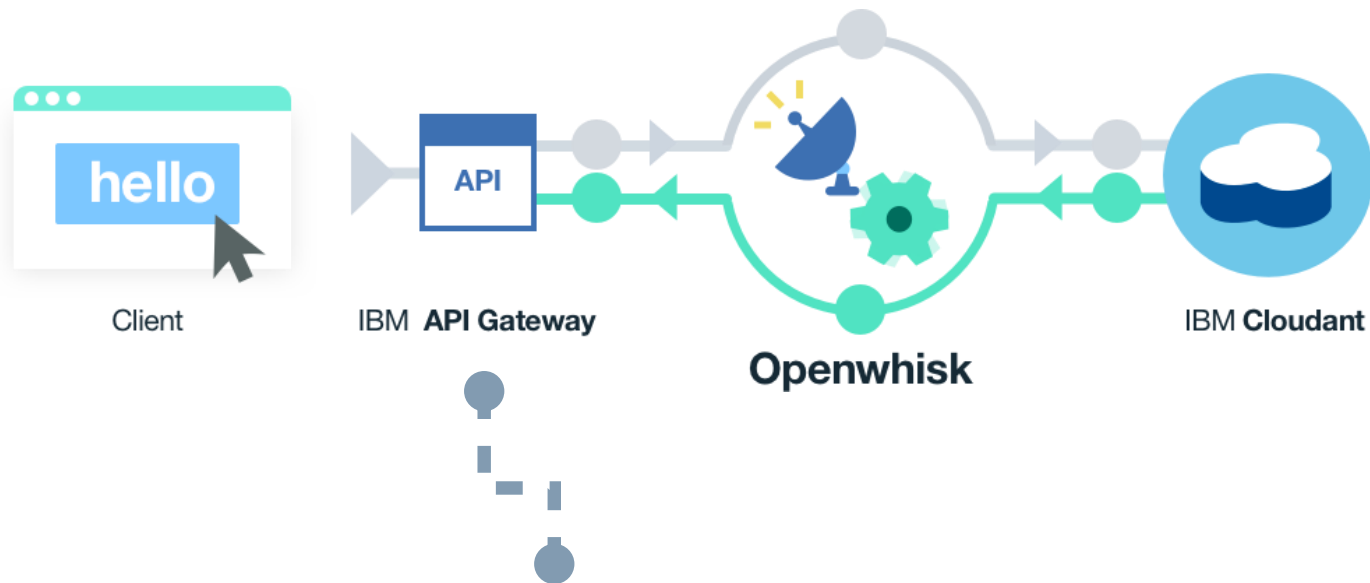
Tech
Preview

- **Natively built API Gateway** with low-level optimizations in the platform to provide **increased performance**
- Leverage the breadth of **comprehensive & field proven DataPower policies** within API Connect with zero to minimal customizations for fast time to value
- **Persisted configuration** in DataPower Gateway vs. caching from API mgmt server for enhanced reliability
- **New OAuth provider configuration** allows generation of OAuth tokens from API assembly with an enhanced live debugging experience



* Statement of Direction published [here](#). Subject to change without notice

Easy to use Native Gateway in IBM Bluemix



API Gateway takes care of:

- Throttling (Rate limiting)
- Security (API Key, Secret, OAUTH, CORS)
- Map Endpoints to Actions & Define them
- Branding

Define API Endpoints (URLs)

(optionally by using custom domains)

Define Actions:

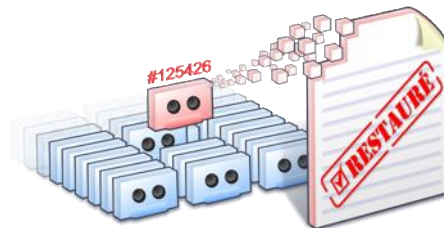
- `getCostumer`
- `createCostumer`
- `deleteCostumer`

Map Endpoints to Actions

- Get
- Post
- Delete

DPOD Firmware and Configuration management

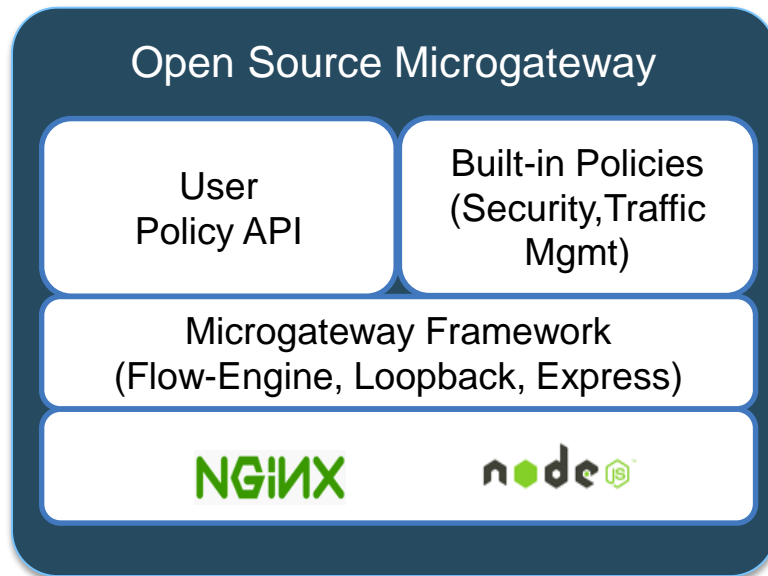
- Trigger **secure backup** and **(regular) backups** on a periodic basis and store for future restores
- Perform **firmware upgrade** across multiple set of DataPower Gateways and manage
- Synchronize DataPower **domain configuration** across a DataPower cluster



Open source API Connect Microgateway

In response to market demand, IBM is providing developers w/ a first-of-a-kind open-source API Gateway delivering the **extensibility of Node.js developers want**, and the **operational maturity & performance enterprises need**.

- **Programmable and extensible framework:** build your own gateway solution via JavaScript & Node.js modules
- Combines the performance & scalability of operations-friendly **NGINX** with flexibility & extensibility of developer-friendly Node.js
- Supports modern **REST API** with basic set of security and rate limiting



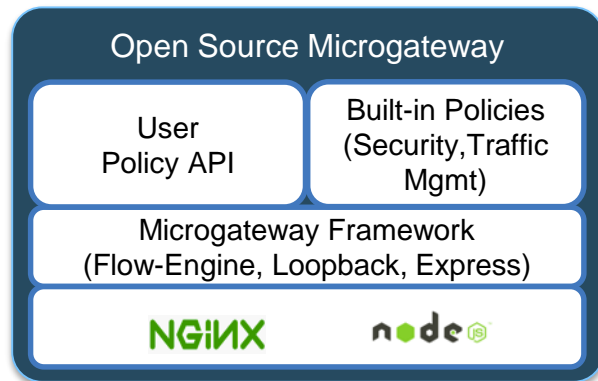
<https://github.com/strongloop/microgateway>

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Selecting the Right Gateway for API Workloads

	DataPower	Open Source Microgateway
Primary user	Enterprise IT; want ready to use gateway	Developers; want to build own gateway
Policy set	Comprehensive set of security, mediation, traffic management	Basic set of security & rate limiting
Backend support	Traditional XML, SOAP + REST; HTTP & Non-HTTP	REST only; HTTP only
Internal Engine	Secure, highly performant & scalable purpose-built gateway engine	NGINX reverse proxy & Node.js based gateway framework
Catalogs	Multiple per instance/cluster	Single per instance/cluster
Extensibility	Low touch. Extensible via JavaScript as needed; not often needed	Highly extensible using JavaScript, often needed/desired



- Videos

- Youtube:

- Datapower Channel: https://www.youtube.com/channel/UCV2_-gdea5LM58S-E3WCqew
 - API Connect Channel: <https://www.youtube.com/user/IBMAPIManagement>

- Communities:

- twitter.com/IBMGateways
 - linkedin.com/groups?gid=4820454
 - ibm.biz/dpuserforum
 - <https://github.com/strongloop/microgateway>

Summary

- ❖ What's New in DataPower Gateway
 - ❖ Dev Ops Ready
 - ❖ Multi-Cloud Ready
 - ❖ Hybrid Cloud Ready
- ❖ DataPower Operation Dashboard (DPOD) Overview
 - ❖ One-stop overview of Datapower Gateway Operations
- ❖ IBM DataPower Gateways Futures
 - ❖ New API Gateway on Datapower
 - ❖ Tenant Isolation on DataPower physical appliances
 - ❖ Bluemix Native
 - ❖ Open-Sourced Microgateway

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