What's new with WebSphere:

Unlock savings and new value with Transformation Advisor and IBM Mono2Micro

IBM

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Offering Manager, Modernization Tools
WebSphere & Liberty

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Worldwide Sales Leader
WebSphere and Application Platform

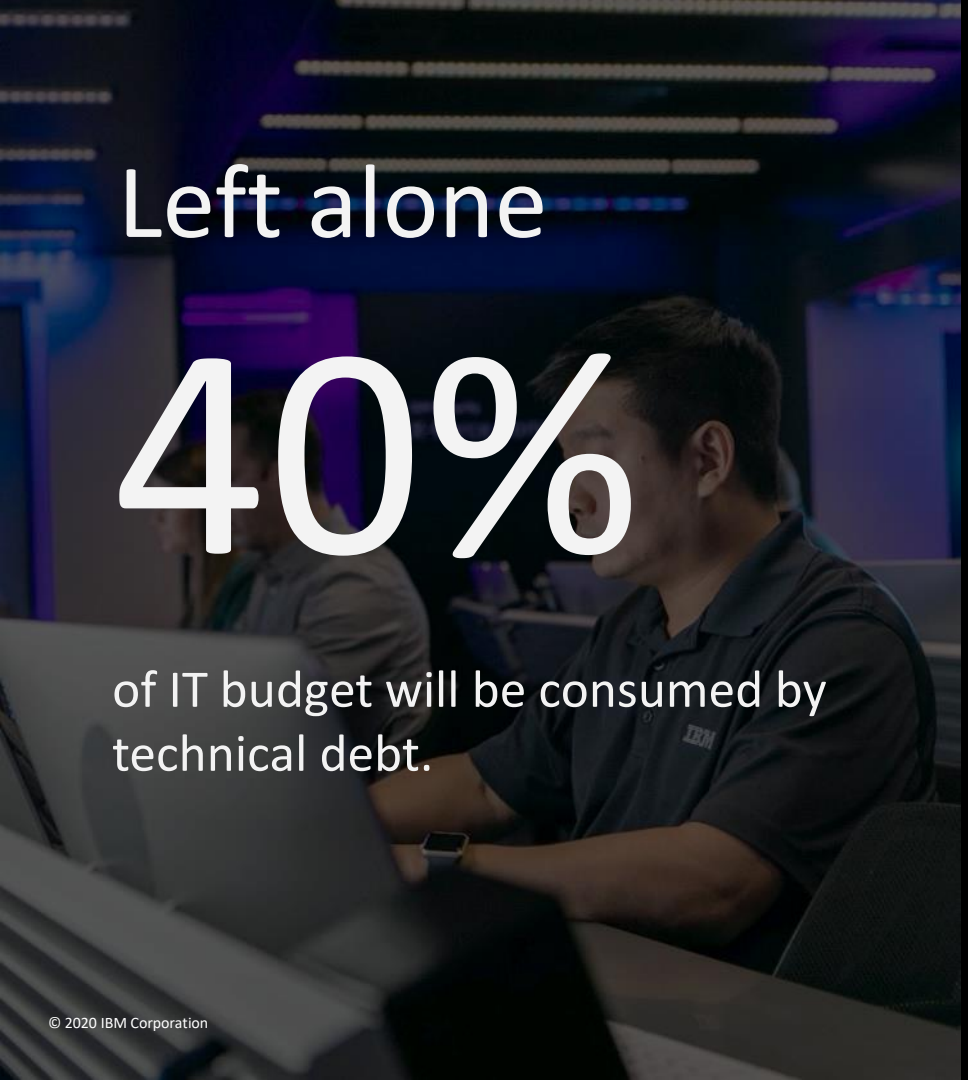
IBM Cloud

Organizations are facing an unprecedented convergence of technological, social and regulatory forces:

- Time to market challenges
- High operational costs
- Managing complexity

Top concerns of WebSphere clients:

- Estate complexity
- Lack of cloud skills
- Escalating costs



Left alone

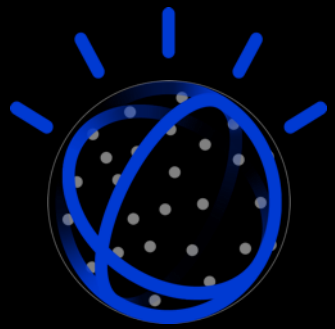
40%

of IT budget will be consumed by technical debt.

Innovation is the ask, but massive transformation programs are hard to greenlight

How do you break through to innovation?

Why Modernize?



#1 You can’t develop features at the pace your business requires

Cause: technology choices and architecture

#2 The architecture of your application is hindering you from being able to add functionality

Cause: fragility or constraints from technology choices

#3 Your application is expensive to maintain and extend

because either the infrastructure is excessively costly (e.g. older versions of middleware that require special support contracts) or the skills required are too expensive to maintain.

Modernization led to optimized resource usage by **75%**

and reduced infrastructure footprint by **50%**

Major US healthcare provider

Right-Sizing and Modernization

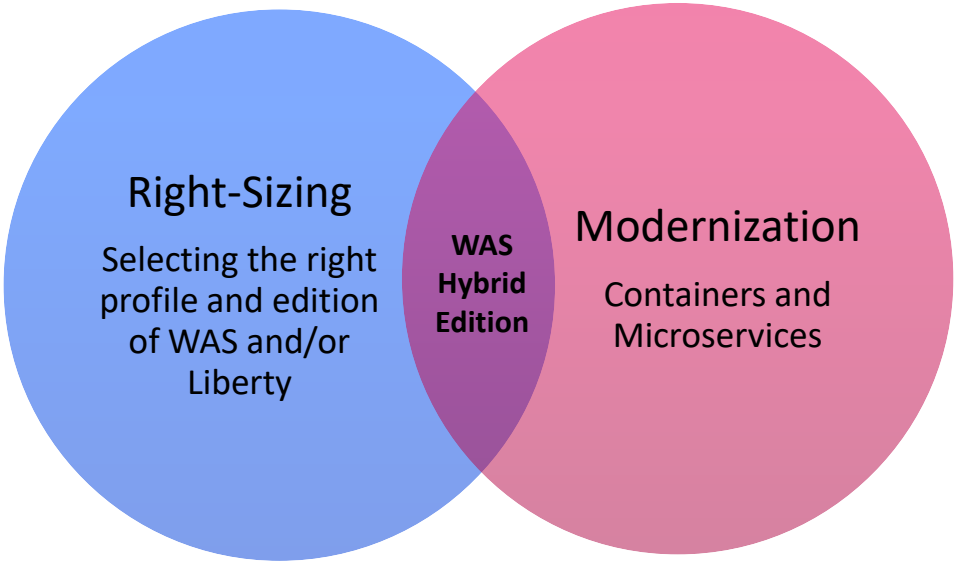
Two Complementary Value Streams

Right-Sizing	Desired Outcomes	Modernization

Cost Reduction through software license savings

Operational Efficiencies by moving to lighter-weight middleware offerings

Readiness for container-based architectures and microservice



Cost Savings through improved hardware density (Containers)

Application Portability (Containers)

Faster, more Consistent Deployments (Containers)

Improved Business Agility (Microservices)

IBM Cloud

WebSphere Liberty

Supports Java EE, great for monoliths and microservices, ideal for modernization

Why Liberty?

Higher scalability
Increased security
Lower overhead

ROI maximization

Just enough runtime	80% disk and 56% memory saving
Low operating cost	4x increased density over Tomcat & Spring Boot
Zero migration & Continuous delivery	Zero-effort security fixing & zero technical debt
	100% v2v & fixpack migration saving
Kubernetes optimized	Self-tuned optimal perf, production-ready, kube-native
Developer experience	Container & kube-native experience, rapid inner loop

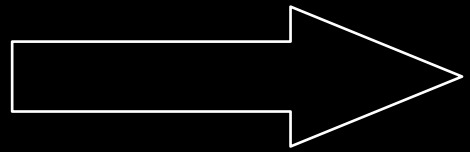
Replay of Liberty Webinar here

IBM

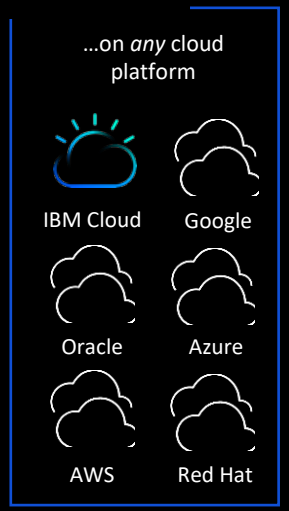
Unlock: Modernize and leverage existing investments

How do you choose the optimum approaches for your organization's needs?

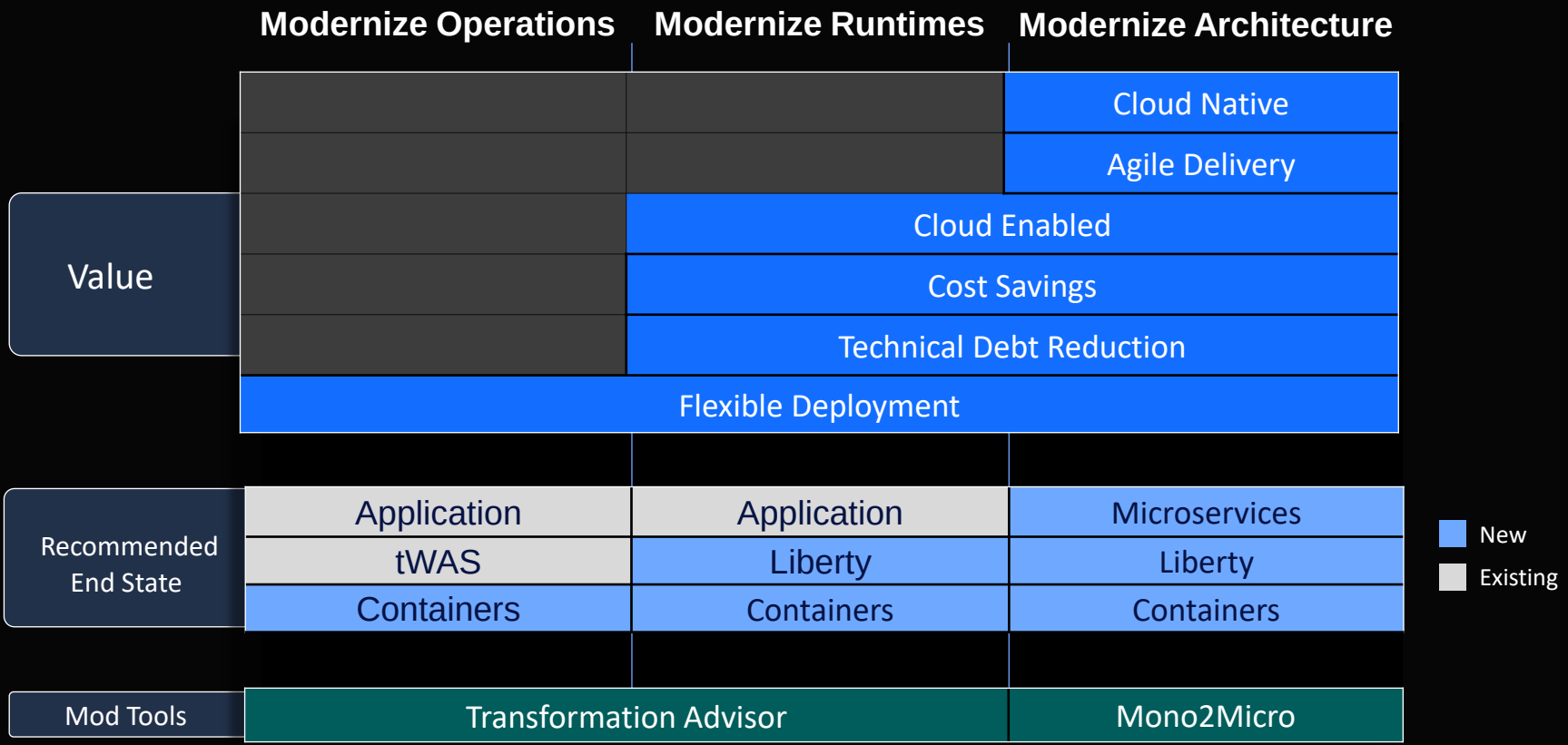
- Retain on Traditional Architecture
- Version to Version Currency
- Modernize and/or Migrate to Cloud
  - *Modernize Operations*
  - *Modernize Runtimes*
  - *Modernize Architecture*
- Rebalance with flexible license
- Cloud Enable IT Estate

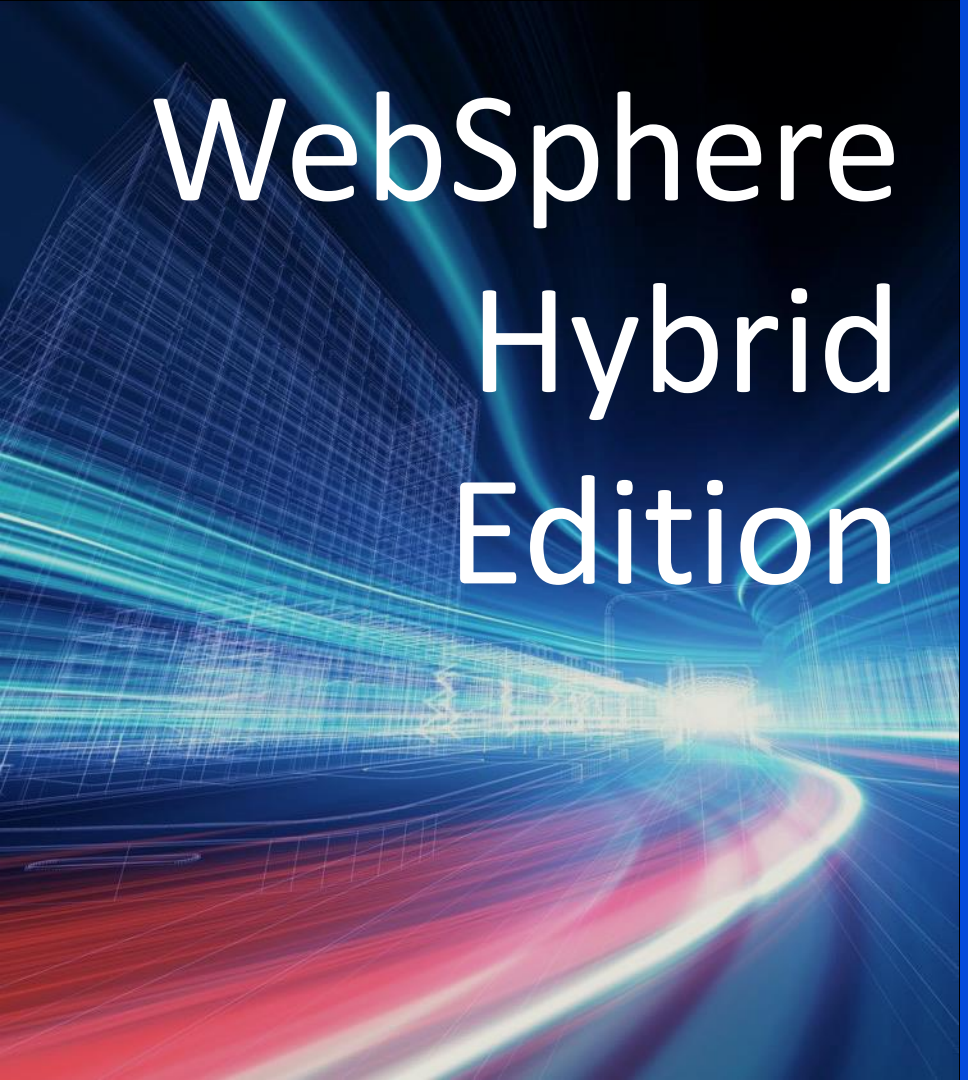


Hybrid Multicloud IT



WebSphere Hybrid Edition Modernization Value Comparison





WebSphere Hybrid Edition

A leaner, more economical solution enabling clients to optimize WebSphere applications for immediate gains while also positioning their business for higher, near-term future value

IBM WebSphere Hybrid Edition: bill of materials

WebSphere Application Server

WebSphere ND | WebSphere & Liberty Base | Liberty Core | Open Liberty

Modernization & Developer Tools

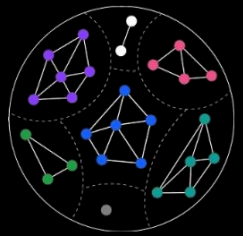
Transformation Advisor™ | Mono2Micro™ | WebSphere Migration Toolkit

Cloud Foundry Migration Runtime

Licensing| Operational Consolidation | Risk Mitigation

How do Modernization Tools help

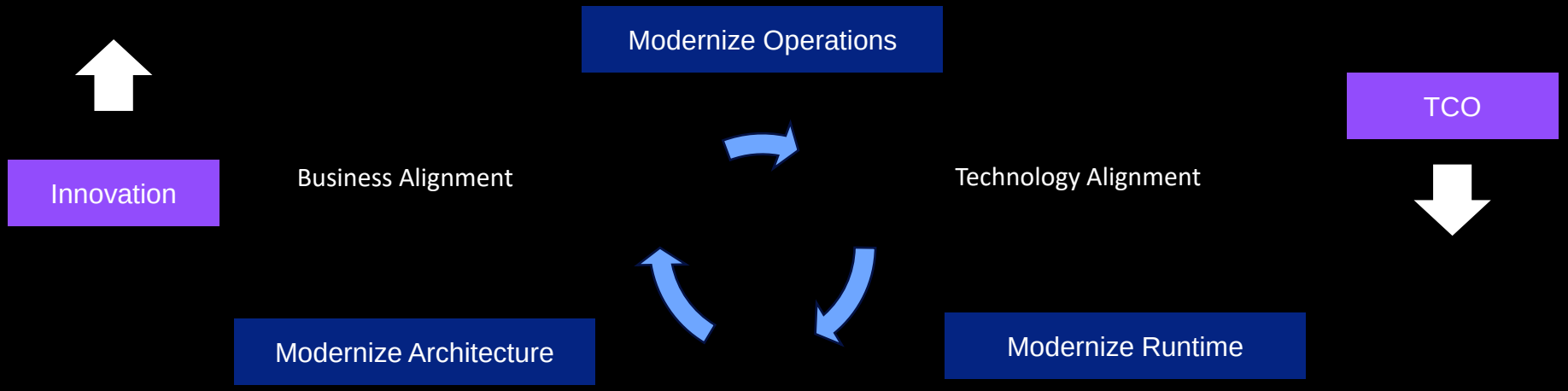
Transformation Advisor



Mono2Micro

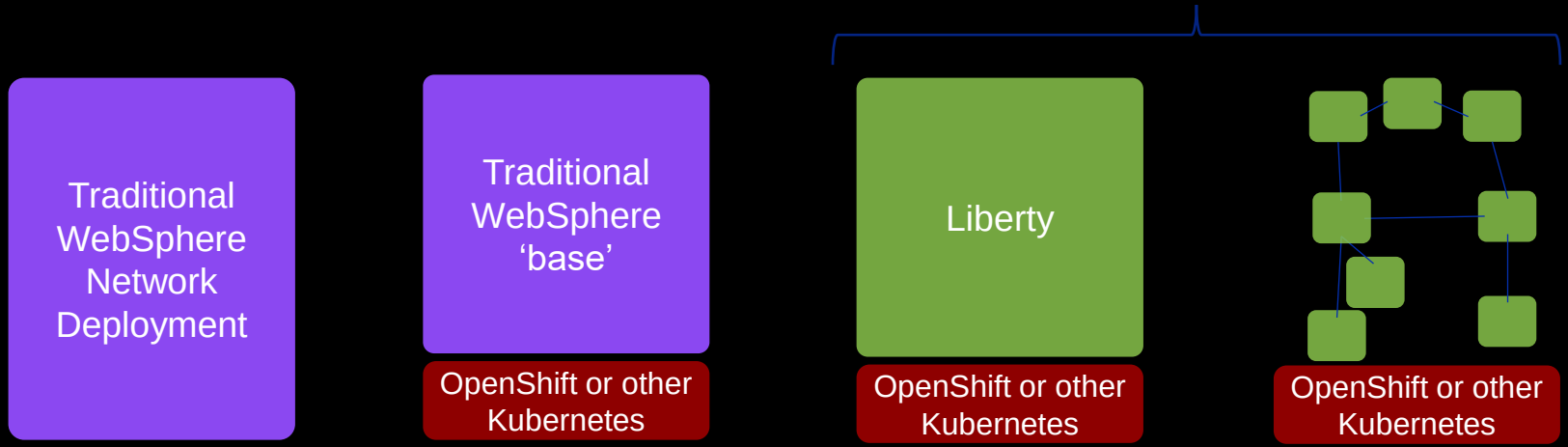
	Advise	Move
Modernize Operations Modernize Runtime	Helps understand cost/complexity of cloud-enabling the application and interdependencies with other apps and services	Generates Migration Artifacts to help build, deploy and operate applications in Cloud using cloud native best practices.
Modernize Architecture	Recommends how an application can be refactored into a set of microservices	Generates code for enabling REST based communication between microservices

Where do I start?



WebSphere Hybrid Edition: Ideal for modernization

Containers, Java EE, monoliths & microservices, …



Monolith → Modernize Operations → Modernize Runtime → Modernize Architecture

IBM® Transformation Advisor™

Available now. Enhancements available in WebSphere Hybrid Edition

- A powerful modernization tool to help you maximize the value of your existing application server environments
- Quickly evaluates on-premises Java EE applications and messaging infrastructure to accelerate deployment of Liberty or WAS Base in containers on private or public cloud
- Introspects deployments to determine complexity of modernization
- Provides recommendations, detailed reports, artifacts, and automated deployment for simple application modernization

More Info: http://ibm.biz/cloudta

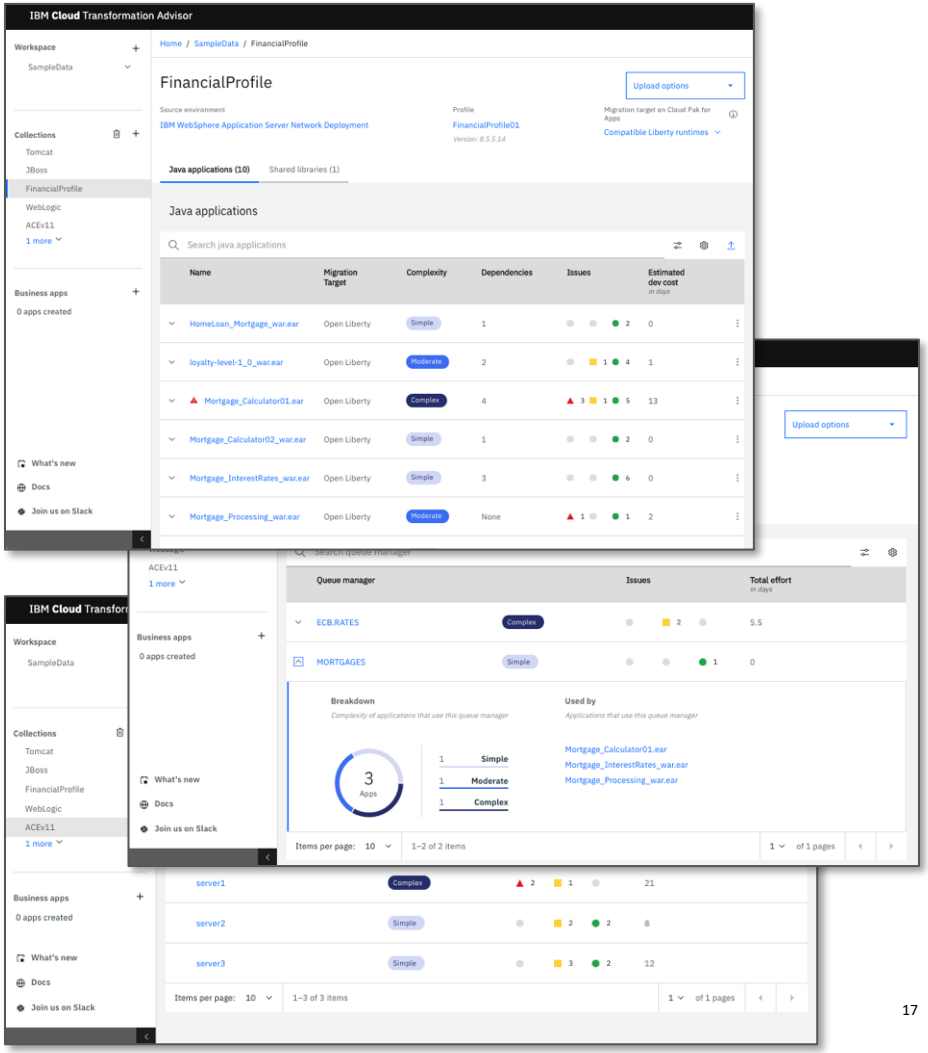
Latest Enhancements

- Analyzes WebSphere deployments on z/OS
- Supports traditional WebSphere Application Server base in containers
- UI performance improvements and multi-language support (15 languages)
- SDK capability to facilitate familiar TA modernization experience for any middleware e.g. IBM Integration Bus
  - SDK Available here: https://github.com/IBM/transformation-advisor-sdk

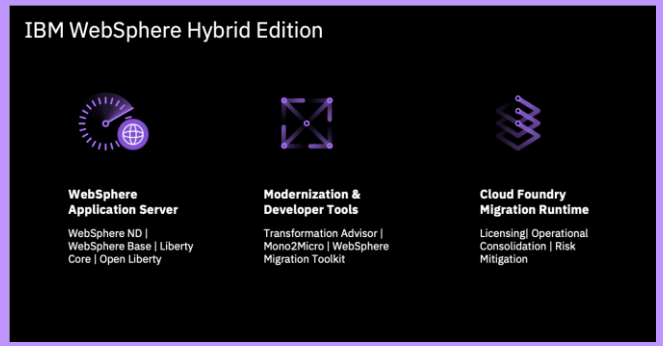
Complexity Assessment

Classification regarding the difficulty of the types of remediation required to move the workload to the desired target runtime environment

Complexity	Java EE	IBM MQ	IIB/ACE
Simple	No code changes needed	DNS reconfiguration required	Admin change required
Moderate	Code changes required	Cluster reconfiguration, changing custom logic (e.g. Exits)	Development change required
Complex	Incompatible technologies	Client Authentication reconfiguration	Difficult develop task or alternate technology required



Get Transformation Advisor



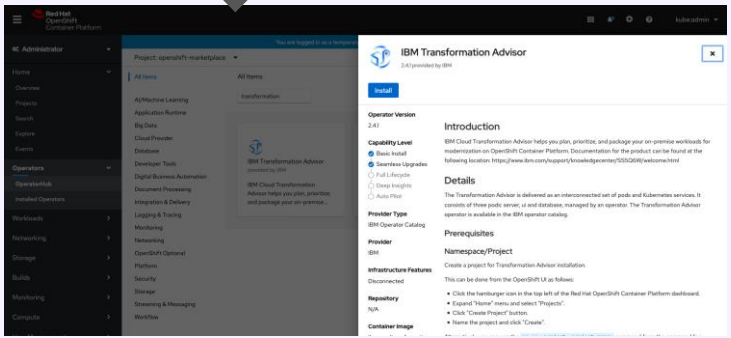
90-day Trial Available

Supported via
WebSphere Hybrid Edition
and
IBM Cloud Pak for Integration

[IBM Transformation Advisor operator – available in IBM Operator Catalog]

TA is available to run locally on Docker Desktop:

- MacOS
- Linux
- Windows

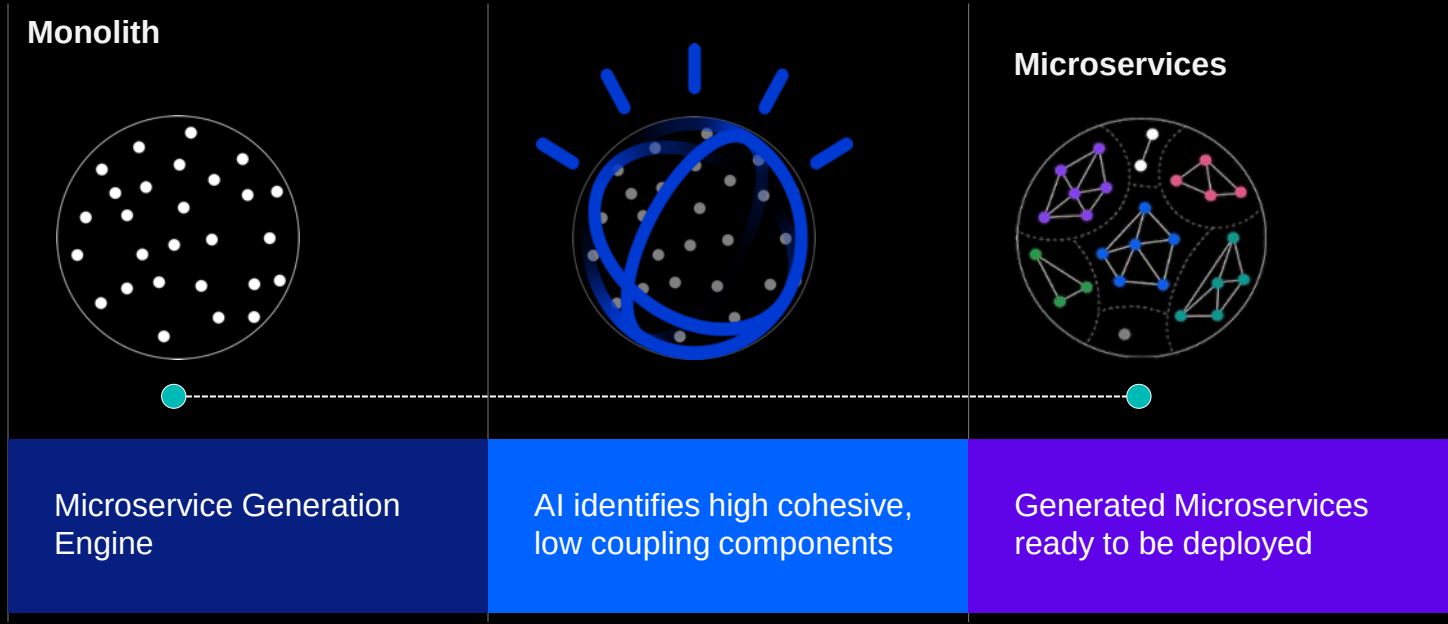


http://ibm.biz/cloudta

IBM® Mono2Micro™

AI based automatic transformation of monoliths into microservices

Mono2Micro AI capabilities generate recommendations, semantic analysis and a significant portion of the code needed for refactoring



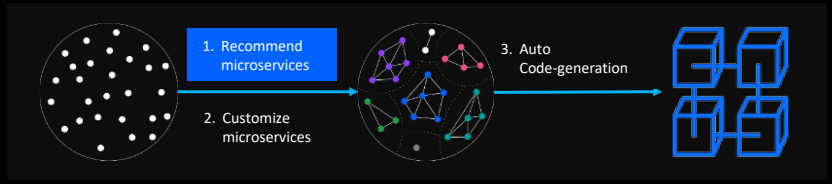
Available now. Fully supported. More info.

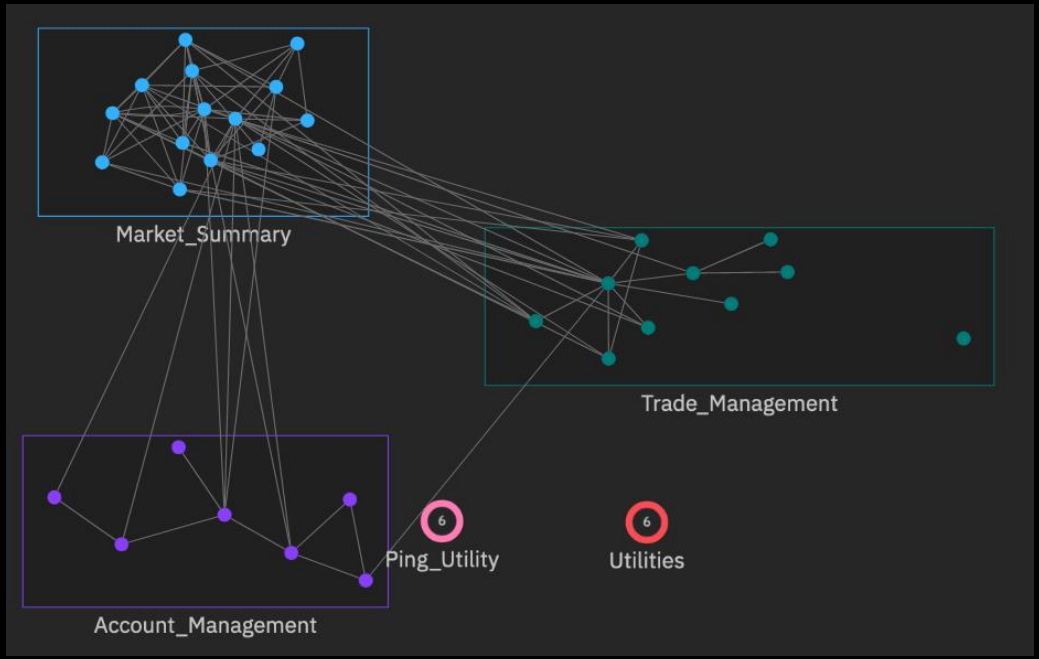
IBM Mono2Micro Microservices Recommendation

Input:
Runtime Traces,
Use Cases, Metadata

Machine Learning
& Clustering

Output:
Business Logic Seams

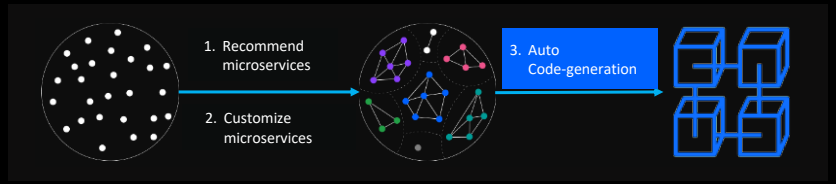




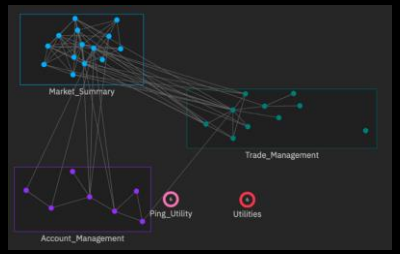
Nodes: Partitions / Groups of Classes - **Edges:** Call Volumes

DEMO TIME
ibm.biz/Mono2Micro

Automated Code Generation



Input

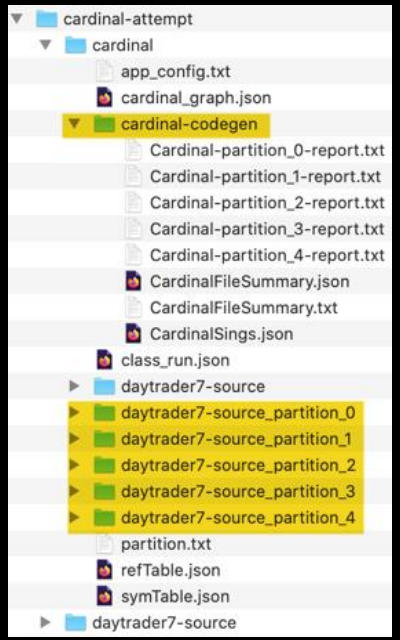


Recommended Microservice (Business Logic)

+

Original Source Code

Output



Codebase for each microservice

Sample auto-generated code for the microservice

```
. . .
public Collection<QuoteDataBean> getTopGainers() {


      Form form = new Form();
      form.param("referenceId", String.valueOf(this.referenceId));

       JsonObject response_json = client.target(DAYTRADER_BIZLOGIC_REST_URL)
         .path("getTopGainers")
         .request(MediaType.TEXT_PLAIN)
         .post(Entity.entity(form, MediaType.APPLICATION_FORM_URLENCODED_TYPE),
String.class);
      String response = (String)response_json.get("return_value");


      Collection<String> response_decoded =
(Collection<String>)SerializationUtil.decode(response);
      String ret_type = (String)response.get("return_type");
. . .
```

IBM WebSphere Hybrid Edition Trade-Up/Upgrade

Stand Alone WebSphere Products

- WAS ND
- WAS (Base)
- WAS Liberty Core
- WAS Family Edition

Flexible Offering

WebSphere Hybrid Edition

Business Value of Trading Up

1. Migrate to Cloud at your rate and pace
2. Modernize and/or refactor existing applications to container-ready runtimes
3. Protect your Investment: Continue to run existing apps - WebSphere, Liberty
4. Develop and deploy new Cloud Applications: 84% delivery improvement from traditional methods
5. Flexible licensing: Mix and match capabilities, VPC licensing, Subscription, CapEx to OpEx

Clients are seeking additional value from their existing investment in WebSphere

- WebSphere Hybrid Edition provides a flexible licensing option for all the editions of WAS
- Clients now have the flexibility to move (right-size) from WAS ND to lower cost WAS/Liberty Base and/or Liberty Core to free up additional licenses for growth, to move to a container-friendly edition of WAS, to potentially lower investment costs over time, or all of the above.

Movement to VPC metric and Subscription Licensing

- Frees up excess growth capacity for some clients running 100 or 120 PVU-rated cores
- Consistent with the licensing policy of public cloud platform providers – no more counting PVUs!

Thank you

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