

A comparison of traditional WAS and Liberty

Dr Alex Mulholland

STSM, WebSphere Offering Management

Current feature set (8.5.5.9)

| | | |
|------|------|-------|
| ND | zOS | New |
| Core | Base | Moved |

| | | | | |
|--------------------------|------------------------|----------------------|-------------------------|-----------------------|
| zosSecurity-1.0 | zosTransaction-1.0 | zosLocalAdapters-1.0 | zosWlm-1.0 | zosConnect-1.2 |
| clusterMember-1.0 | scalingController-1.0 | | healthAnalyzer-1.0 | |
| collectiveController-1.0 | scalingMember-1.0 | dynamicRouting-1.0 | healthManager-1.0 | |
| couchdb-1.0 | wasJmsServer-1.0 | ejbHome-3.2 | appClientSupport-1.0 | javaeeClient-7.0 |
| mongodb-2.0 | wasJmsSec-1.0 | ejb-3.2 | ejbPersistentTimer-3.2 | rtComm-1.0 |
| wsSec-1.1 | jmsMdb-3.2 | jca-1.7 | ejbRemote-3.2 | sipServlet-1.1 |
| jaxb-2.2 | wmqJmsClient-2.0 | mdb-3.2 | j2eeManagement-1.1 | batchMgmt-1.0 |
| jaxws-2.2 | wasJmsClient-2.0 | jms-2.0 | jcaInboundSec-1.0 | batch-1.0 |
| openid-2.0 | ldapRegistry-3.0 | adminCenter-1.0 | openidConnectSrvr-1.0 | apiDiscovery-1.0 |
| oauth-2.0 | collectiveMember-1.0 | osgiConsole-1.0 | openidConnectClient-1.0 | constrainedDelegn-1.0 |
| json-1.0 | restConnector-1.0 | spnego-1.0 | requestTiming-1.0 | scim-1.0 |
| concurrent-1.0 | distributedMap-1.0 | bells-1.0 | eventLogging-1.0 | httpWhiteboard-1.0 |
| wab-1.0 | sessionDatabase-1.0 | webCache-1.0 | jaspic-1.0 | federatedRegistry-1.0 |
| blueprint-1.0 | serverStatus-1.0 | monitor-1.0 | jacc-1.0 | osgiBundle-1.0 |
| samlWeb-2.0 | osgiAppIntegration-1.0 | timedOps-1.0 | bluemixUtility-1.0 | logstashCollector-1.0 |
| el-3.0 | jdbc-4.1 | ssl-1.0 | ejbLite-3.2 | jaxrs-2.0 |
| websocket-1.0 | jndi-1.0 | jsonp-1.0 | jsf-2.2 | jaxrsClient-2.0 |
| jsp-2.3 | appSecurity-2.0 | websocket-1.1 | jpa-2.1 | beanValidation-1.1 |
| servlet-3.1 | managedBeans-1.0 | javaMail-1.6 | cdi-1.2 | |

General product considerations

| | WAS Liberty | WAS traditional |
|----------------------------|---|---|
| Install mechanism | Installation Manager Archive | Installation Manager |
| Install size | 200MB, granular | 2GB |
| Operating systems | Win, linux, zlinux, AIX, HP, Solaris, z/OS, IBMi, Mac OSX (dev) | Win, linux, zlinux, AIX, HP, Solaris, z/OS, IBMi |
| Virtual, Cloud, containers | VMs, IaaS, PaaS, Docker | VMs, IaaS, Docker |
| Java SE support | Any 1.6, 7.x, 8.x | IBM only 1.6, 7.x, 8.x |
| Java EE impl | Partial 6.0, Full 7.0 | Full 6.0, Full 7.0 (beta) |
| Fix Packs, iFixes | Yes | Yes |
| Memory requirements | Lower | Higher |
| New features | Regular, granular | Major version updates |
| IBM Stack products | Majority, growing | BPM, Portal, Commerce |

Configuration and deployment

| | WAS Liberty | WAS traditional |
|--------------------------|-------------------------------|-------------------------|
| Composable runtime | Yes (features) | No (some configuration) |
| Dynamic configuration | Yes | Partial |
| Configuration structure | Flexible; network, SCM | Defined |
| Config editing | Simple, eclipse & admin tools | wsadmin, admin console |
| Config updates | File-based | Deltas via tools |
| Central mgmt (CM) | Collective, no agents | Cell, node agents |
| Central Mgmt Scale | tiny to huge: 10,000+ | med/large: 200-700 |
| Central Manager failover | Yes | No |
| Config ownership | Server (no sync) | DMgr (sync) |
| Licensing | Flexible in collective | Cell all ND |
| Application deployment | Script, server package | Script, admin console |
| Application update | Replace server package | Delta updates |
| Product update (V2V) | No migration needed | Migration tools |

Operational capabilities (1 of 2)

Advantage
New

| | WAS Liberty | WAS traditional |
|----------------------------|---|-----------------------|
| HTTP Spray/Failover | Plugin/ODRLIB, DataPower, any HTTP proxy | Same plus Java ODR |
| HTTP Session replication | WXS or DB | Same plus DRS |
| Scripting support | Any, jython samples | wsadmin(JACL, Jython) |
| Dynamic clusters/autoscale | Yes | Yes |
| Health policies | Yes | Yes, +custom |
| Application editions | No (blue/green) | Yes |
| Hybrid management | Yes (assisted lifecycle) | No |
| JMX Client | Java, REST | WAS admin client |
| Monitoring | MXBeans, PMI | PMI, more stats |
| Visual monitoring | Limited, admin center Log analytics (beta) | Richer, TPV |
| Fine-grained admin auth | No (single admin role) | Yes |

Operational capabilities (2 of 2)

Advantage
New

| | WAS Liberty | WAS traditional |
|-----------------------------|--------------------------------------|--------------------------------------|
| JMS Providers | Internal, WMQ, 3 rd party | Internal, WMQ, 3 rd party |
| High Capacity JMS engine | No (use WMQ) | Yes |
| Clustered JMS Provider | No (use WMQ) | Yes |
| 2PC Transaction recovery | Yes | Yes |
| 2PC Peer recovery | Manual | Automated, Manual |
| Remote EJB calls | Yes | Yes |
| EJB Txn propagation | No | Yes |
| EJB/WS WLM/failover | No | Yes |
| Web Service Txn propagation | Yes | Yes |
| Stateful Web Services | No | Yes (via Java ODR) |
| Alternate Java EE impls | Easy to use | A few supported |
| Runtime class visibility | Defined API | Internals are accessible |
| Docker support | Yes, collectives (beta) | Yes |

Security options (1 of 2)

| | WAS Liberty | WAS traditional |
|-------------------------------|------------------|------------------|
| Default passwords | No | No |
| Minimal ports opened | Yes | No |
| Secured remote admin | Mandatory | Yes |
| File user registry | Yes (server.xml) | Yes (file based) |
| Federated LDAP or SAF | Yes | Yes |
| OAuth, OpenID, OIDC client | Yes | Yes |
| OIDC server/provider | Yes | No |
| LTPA, SPNEGO tokens | Yes | Yes |
| SAML Web SSO | Yes | Yes |
| SAML Web Services | Yes | Yes |
| User and Group API | Yes | Yes |
| Federate file registry w/LDAP | Yes | Yes |

Security options (2 of 2)

| | WAS Liberty | WAS traditional |
|--------------------------------------|-----------------|-----------------|
| Auditing | No | Yes |
| Advanced key/cert mgmt | No | Yes |
| Local o/s registry | SAF only (z/OS) | Yes |
| JAX-WS support for LTPA | No | Yes |
| JSSEHelper API / Outbound SSL config | No | Yes |