IBM Watson IoT Platform

This Service Description describes the Cloud Service. The applicable order documents provide pricing and additional details about Client's order.

1. Cloud Service

IBM Watson IoT Platform connects devices, ingests device data and transforms that data into meaningful insights. Watson IoT Platform and its additional add on services enable Clients to capture data for devices, equipment, and machines, to explore this data, and to discover insights on this data that drive better decision making. Watson IoT Platform provides a pre-integrated foundation for industry solution and Client applications built on IoT data.

IBM Watson IoT Platform is made up of three fundamental services: Connection Service, Analytics Service, and Blockchain Service. All three services have a nonproduction package for proofs of concept and pilot work, as well as a production package for full production deployment.

IBM Watson IoT Platform Connection Service capabilities include:

● Connection of a wide spectrum of IoT devices

● IoT device registration and management

● User Registration, setup, and authentication

● Ability to create alerts

● Security with TLS authentication support, access control group for devices & gateways

● Data Lifecycle Management

● Solution administration for deployment and device groupings

Additionally:

● Analytics Service enable to enrich, augment and interact with raw data

● Blockchain Service enable to connect with Blockchain enabled networks

1.1 Offerings

The Client may select from the following available offerings.

1.1.1 IBM Watson IoT Platform – Connection Service Sensor

This Cloud Service is intended to be used by "Sensor" class devices which include low cost sensors, parking meters, and street lights. The following table shows the consumption included in this Cloud Service per Sensor Client Device.

Size of message (KB)	Maximum message rate (msgs/day)	Retention in Cloudant (days)	Retention in Db2 Warehouse* (months)	% of transfer from raw to analytical data	Retention in ObjectStore (months)
0.2	96	30	3	100%	12

*Note: IBM Db2 Warehouse on Cloud is previously known as IBM dashDB for Analytics.

1.1.2 IBM Watson IoT Platform – Connection Service Consumer

This Cloud Service is intended to be used by "Consumer" class devices which include consumer appliances and consumer electronics devices. The following table shows the consumption included in this Cloud Service per Consumer Client Device.

Size of message (KB)	Maximum message rate (msgs/day)	Retention in Cloudant (days)	Retention in Db2 Warehouse* (months)	% of transfer from raw to analytical data	Retention in ObjectStore (months)
0.5	500	30	3	100%	12

*Note: IBM Db2 Warehouse on Cloud is previously known as IBM dashDB for Analytics.

1.1.3 IBM Watson IoT Platform – Connection Service Enterprise

This Cloud Service is intended to be used by "Enterprise" class devices which include office products, computer equipment, networking equipment, and drones. The following table shows the consumption included in this Cloud Service per Enterprise Client Device.

Size of message (KB)	Maximum message rate (msgs/day)	Retention in Cloudant (days)	Retention in Db2 Warehouse* (months)	% of transfer from raw to analytical data	Retention in ObjectStore (months)
4	1440	30	3	100%	12

*Note: IBM Db2 Warehouse on Cloud is previously known as IBM dashDB for Analytics.

1.1.4 IBM Watson IoT Platform – Connection Service Industrial

This Cloud Service is intended to be used by "Industrial" class devices which include mining, marine, and farming equipment. The following table shows the consumption included in this Cloud Service per Industrial Client Device.

Size of message (KB)	Maximum message rate (msgs/day)	Retention in Cloudant (days)	Retention in Db2 Warehouse* (months)	% of transfer from raw to analytical data	Retention in ObjectStore (months)
1	86,400	30	3	30%	12

*Note: IBM Db2 Warehouse on Cloud is previously known as IBM dashDB for Analytics.

1.2 Additional Services

1.2.1 IBM Watson IoT Platform – Connection Service Non-Production Instance

Clients can also purchase non-production instance of the IBM Watson IoT Platform Service to be used to develop and build their IoT applications, test connecting devices of any type, and to run proof of concepts. Each non-production Instance can support up to 560 MB of data consumption each month and connect up to the following number of devices each month; 1000 Sensor devices, 500 Consumer devices, 50 Enterprise devices, or 3 Industrial devices.

1.2.2 IBM Watson IoT Platform Capacity Unit Subscription Services

Clients can subscribe to additional Capacity above their Device subscription entitlement using Capacity Units. This allows Clients to purchase Capacity Units per Month using the following service:

● IBM Watson IoT Platform – Connection Service Sensor Capacity Unit

● IBM Watson IoT Platform – Connection Service Consumer Capacity Unit

● IBM Watson IoT Platform – Connection Service Enterprise Capacity Unit

● IBM Watson IoT Platform – Connection Service Industrial Capacity Unit

1.2.3 IBM Watson IoT Platform Capacity Unit Pay Per Use Services

If Client's use of their entitled Cloud Service exceeds the included Capacity for their device subscription, Client will be charged for the applicable Capacity Unit pay per use service to cover the excess Capacity used in a given month. Pay per use services are:

● IBM Watson IoT Platform – Connection Service Sensor Capacity Unit Pay Per Use

● IBM Watson IoT Platform – Connection Service Consumer Capacity Unit Pay Per Use

● IBM Watson IoT Platform – Connection Service Enterprise Capacity Unit Pay Per Use

● IBM Watson IoT Platform – Connection Service Industrial Capacity Unit Pay Per Use

1.2.4 IBM Watson IoT Platform – Blockchain Service Production

As an add-on service to IBM Watson IoT Platform, Blockchain service is intended to be used to connect IoT solutions to blockchain business networks. Blockchain is a distributed ledger technology enabling multiple parties to transact and store information in an immutable, shared database, that is replicated to all participants. Blockchain Service enables IoT data sources to connect, configure, write, and read blockchain transactions, and participate in blockchain based processes.

1.2.5 IBM Watson IoT Platform – Blockchain Service Non-production

Clients can also purchase non-production environment Instances of the IBM Watson IoT Blockchain Service to be used to develop and build their IoT blockchain applications, test connecting devices and solutions, and to run proof of concepts. Each non-production Instance can support up to 400 Digital Messages per month.

1.2.6 IBM Watson IoT Platform – Analytics Service Production

As an add-on service to IBM Watson IoT Platform, Analytics service enables line of business users to easily enrich, augment and interact with the data coming from the platform with additional analytical measures and configurable business rules to get a better view of their operations and business.

Analytics service provides support for creating, monitoring and enforcing business relevant Analytic functions. Analytic service has a user interface that automates the workflow of gathering input data for analytic function calculation from multiple sources; defining input data to perform calculations; acting on the calculated values and storing the calculated results.

Analytics service also enables developers to extend and create custom Analytic functions through a python-based API SDK library.

Service consumption is limited to a maximum allowable message size of 4KB. Calculations can be performed in the batch mode from the data stored in the data lake. Calculations can be performed with a minimum interval of 5 minutes. Calculated values can be stored with a minimum duration of 1 hour.

1.2.7 IBM Watson IoT Platform – Analytics Service Non Production

Clients can also purchase non-production instance of Analytics add-on service to the platform in order to explore, discover, develop and test their analytic functions to extract valuable insights ahead of implementing those functions in a production setting. Each non-production instance will support analytic capacity of 10 Million Events per month. This is equivalent to a capacity of running 20 analytic functions over 50 devices for a month.

2. Data Processing and Protection Data Sheets

IBM's Data Processing Addendum at http://ibm.com/dpa (DPA) and the Data Processing and Protection Data Sheet(s) (referred to as data sheet(s) or DPA Exhibit(s)) in the links below provide additional data protection information for the Cloud Services and its options regarding the types of Content that may be processed, the processing activities involved, the data protection features, and specifics on retention and return of Content. The DPA applies if and to the extent the European General Data Protection Regulation (EU/2016/679) (GDPR) applies to personal data contained in Content.

IBM Watson IoT Platform Service data sheet

https://www.ibm.com/software/reports/compatibility/clarity-reports/report/html/softwareReqsForProduct?deliverableId=2B4539E04A4711E79342EA59690D4322

IoT Blockchain Service Data Sheet

https://www.ibm.com/software/reports/compatibility/clarity-reports/report/html/softwareReqsForProduct?deliverableId=80215F904D5111E79342EA59690D4322

3. Service Levels and Technical Support

3.1 Service Level Agreement

IBM provides the Client with the following availability service level agreement (SLA). IBM will apply the highest applicable compensation based on the cumulative availability of the Cloud Service as shown in the table below. The availability percentage is calculated as the total number of minutes in a contracted month, minus the total number of minutes of Service Down in the contracted month, divided by the total number of minutes in the contracted month. The Service Down definition, the claim process and how to contact IBM regarding service availability issues are in IBM's Cloud Service support handbook at https://www.ibm.com/software/support/saas_support_overview.html.

Availability	Credit (% of monthly subscription fee*)
Less than 99.9%	2%
Less than 99.0%	5%
Less than 95.0%	10%

* The subscription fee is the contracted price for the month which is subject to the claim.

3.2 Technical Support

Technical support for the Cloud Service, including support contact details, severity levels, support hours of availability, response times, and other support information and processes, is found by selecting the Cloud Service in the IBM support guide available at https://www.ibm.com/support/home/pages/support-guide/.

4. Charges

4.1 Charge Metrics

The charge metric(s) for the Cloud Service are specified in the Transaction Document.

The following charge metrics apply to this Cloud Service:

a. Capacity Unit is an independent measure of capacity related to the use of the Cloud Services.

b. Client Device is any device that requests or receives execution commands, procedures or applications from a server environment that accesses the Cloud Services.

c. Digital Message is an electronic communication managed or processed by the Cloud Services.

d. Event is an occurrence of a specific event that is processed by or related to the use of the Cloud Services.

e. Instance is each access to specific configuration of the Cloud Services.

5. Additional Terms

For Cloud Service Agreements (or equivalent base cloud agreements) executed prior to January 1, 2019, the terms available at https://www.ibm.com/acs apply.

5.1 Entitlement Details for Subscription and Capacity by Device Type

Sensor Table

Service	Units	Sensor Included	Sensor CU
Watson IoT Platform – Data Exchanged	Per MB of data	0.58	410.26
Cloudant for IBM Cloud DB – Data Storage	Per MB of storage	1.16	546.13
Db2 Warehouse on Cloud – Data Storage	Per MB of storage	2.18	470.80
Cloud Object Storage – Data Storage	Per MB of storage	6.98	18,204.44
Cloud Object Storage – Data Retrieval	Per MB of download	0.70	6068.15
Event Streams – Number of Messages	Number of messages	5952	6,000,000
Note: Following data refers to the instance, not related to number of devices			
Cloudant for IBM Cloud – Data Storage	MB of storage	10,240.00	
AppID – Authorized Users (Operators)	Number of authorized users	5	243
AppIID – Authenticated Events (Operators)	Number of authenticated events	6200	134
Secure Gateway – Number of Gateways	Number of gateways	1	50 CUs = 1 gateway
Secure Gateway – Data Transmitted	MB of data transmitted	512.00	546.13

Service	Units	Sensor Included	Sensor CU
Event Streams – Number of Partitions	Number of partitions	4	20 CUs = 1 partition

Consumer Table

Service	Units	Consumer Included	Consumer CU
Watson IoT Platform – Data Exchanged	Per MB of data	7.57	820.51
Cloudant for IBM Cloud – Data Storage	Per MB of storage	15.14	1092.27
Db2 Warehouse on Cloud – Data Storage	Per MB of storage	28.38	941.61
Cloud Object Storage – Data Storage	Per MB of storage	90.82	36,408.89
Cloud Object Storage – Data Retrieval	Per MB of download	9.08	12,136.30
Event Streams – Number of Messages	Number of messages	31,000	11,000,000
Note: Following data refers to the instance, not related to number of devices			
Cloudant for IBM Cloud – Data Storage	MB of storage	10,240.00	
AppID – Authorized Users (Operators)	Number of authorized users	5	485
AppIID – Authenticated Events (Operators)	Number of authenticated events	6200	267
Secure Gateway – Number of Gateways	Number of gateways	1	25 CUs = 1 gateway
Secure Gateway – Data Transmitted	MB of data transmitted	512.00	1092.27
Event Streams – Number of Partitions	Number of partitions	4	10 CUs = 1 partition

Enterprise Table

Service	Units	Enterprise Included	Enterprise CU
Watson IoT Platform – Data Exchanged	Per MB of data	174.38	4102.56
Cloudant for IBM Cloud – Data Storage	Per MB of storage	348.75	5461.33
Db2 Warehouse on Cloud – Data Storage	Per MB of storage	653.91	4708.05
Cloud Object Storage – Data Storage	Per MB of storage	2092.50	182,044.44
Cloud Object Storage – Data Retrieval	Per MB of download	209.25	60,681.48
Event Streams – Number of Messages	Number of messages	89280	54,000,000
Note: Following data refers to the instance, not related to number of devices			
Cloudant for IBM Cloud – Data Storage	MB of storage	10,240.00	
AppID – Authorized Users (Operators)	Number of authorized users	5	2425
AppIID – Authenticated Events (Operators)	Number of authenticated events	6200	1334
Secure Gateway – Number of Gateways	Number of gateways	1	5 CUs = 1 gateway
Secure Gateway – Data Transmitted	MB of data transmitted	512.00	5461.33
Event Streams – Number of Partitions	Number of partitions	4	2 CUs = 1 partition

Industrial Table

Service	Units	Industrial Included	Industrial CU
Watson IoT Platform – Data Exchanged	Per MB of data	2615.63	41,025.64
Cloudant for IBM Cloud – Data Storage	Per MB of storage	5231.25	54613.33

Service	Units	Industrial Included	Industrial CU
Db2 Warehouse on Cloud – Data Storage	Per MB of storage	2942.58	47080.46
Cloud Object Storage – Data Storage	Per MB of storage	31,387.5	1,820,444.44
Cloud Object Storage – Data Retrieval	Per MB of download	3138.75	606,814.81
Event Streams – Number of Messages	Number of messages	5,356,800	534,000,000
Note: Following data refers to the instance, not related to number of devices			
Cloudant for IBM Cloud – Data Storage	MB of storage	10,240.00	
AppID – Authorized Users (Operators)	Number of authorized users	5	24243
AppIID – Authenticated Events (Operators)	Number of authenticated events	6200	13,334
Secure Gateway – Number of Gateways	Number of gateways	1	3
Secure Gateway – Data Transmitted	MB of data transmitted	512.00	54,613.33
Event Streams – Number of Partitions	Number of partitions	4	6

5.2   Using Enabling Software IOT Analytics Library

The Cloud Service may require the use of enabling software that Client downloads to Client systems to facilitate use of the Cloud Service. The enabling software, IOT Analytics python library, is made available for download by Client. Client may use enabling software only in connection with use of the Cloud Service.