



Service Description

IBM IoT Connection Service

This Service Description describes the Cloud Service IBM provides to Client. Client means the contracting party and its authorized users and recipients of the Cloud Service. The applicable Quotation and Proof of Entitlement (PoE) are provided as separate Transaction Documents.

1. Cloud Service

IBM IoT Connection Service ingests device data and transforms that data into meaningful insights, which can provide a full breadth of product analytics to operators, and guide new product design for makers. This offering enables electronics and equipment companies to deploy comprehensive management of "Connected Products" that provides the capability to collect and analyze relevant product performance and usage data.

IoT Connection Service capabilities include:

- Appliance claiming
- Registration, setup, and authentication
- Device user ID pairing
- Create Alerts and Dashboards
- Remote performance monitoring
- Security
- Data Lifecycle Management
- Solution administration for deployment and device groupings

1.1 IBM IoT 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.

1.2 IBM IoT 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.

1.3 IBM IoT 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.

1.4 IBM IoT 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.

1.5 Additional Services

1.5.1 IBM IoT Connection Service Non-Production Environment

Clients can also purchase non-production environment Instances of the IoT Connection 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.

1.5.2 IBM IoT Connection Service 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 IoT Connection Service Sensor Capacity Unit
- IBM IoT Connection Service Consumer Capacity Unit
- IBM IoT Connection Service Enterprise Capacity Unit
- IBM IoT Connection Service Industrial Capacity Unit

1.5.3 IBM IoT Connection Service 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 Unity pay per use service to cover the excess Capacity used in a given month. Pay per use services are:

- IBM IoT Connection Service Sensor Capacity Unit Pay Per Use
- IBM IoT Connection Service Consumer Capacity Unit Pay Per Use
- IBM IoT Connection Service Enterprise Capacity Unit Pay Per Use
- IBM IoT Connection Service Industrial Capacity Unit Pay Per Use

1.6 IBM IoT Blockchain Services

1.6.1 IBM IoT Blockchain Service

This optional Cloud 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. IBM IoT Blockchain Service enables IoT data sources to connect, configure, write, and read blockchain transactions, and participate in blockchain based processes.

1.6.2 IBM IoT Blockchain Service – Non-production

Clients can also purchase non-production environment Instances of the IBM 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.

2. Content and Data Protection

The Data Processing and Protection Data Sheet (Data Sheet) provides information specific to the Cloud Service regarding the type of Content enabled to be processed, the processing activities involved, the data protection features, and specifics on retention and return of Content. Any details or clarifications and terms, including Client responsibilities, around use of the Cloud Service and data protection features, if any, are set forth in this section. There may be more than one Data Sheet applicable to Client's use of the Cloud Service based upon options selected by Client. The Data Sheet may only be available in English and not available in local language. Despite any practices of local law or custom, the parties agree that they understand English and it is an appropriate language regarding acquisition and use of the Cloud Services. Client acknowledges that i) IBM may modify the Data Sheet from time to time at IBM's sole discretion and ii) such modifications will supersede prior versions. The intent of any modification to the Data Sheet will be to i) improve or clarify existing commitments, ii) maintain alignment to current adopted standards and applicable laws, or iii) provide additional commitments. No modification to the Data Sheet will materially degrade the security of a Cloud Service. The following Data Sheet(s) apply to the Cloud Service and its available options.

Link(s) to the applicable Data Sheet(s):

IoT Connection 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>

Client is responsible to take necessary actions to order, enable, or use available data protection features for a Cloud Service and accepts responsibility for use of the Cloud Services if Client fails to take such actions, including meeting any data protection or other legal requirements regarding Content.

IBM's Data Processing Addendum at <http://ibm.com/dpa> (DPA) applies and is referenced in as part of the Agreement, if and to the extent the European General Data Protection Regulation (EU/2016/679) (GDPR) applies to personal data contained in Content. The applicable Data Sheet for this Cloud Service will serve as the DPA Exhibit.

3. Service Level Agreement

IBM provides the following availability service level agreement ("SLA") for the Cloud Service as specified in a PoE. The SLA is not a warranty. The SLA is available only to Client and applies only to use in production environments.

3.1 Availability Credits

Client must log a Severity 1 support ticket with the IBM technical support help desk within 24 hours of first becoming aware that there is a critical business impact and the Cloud Service is not available. Client must reasonably assist IBM with any problem diagnosis and resolution.

A support ticket claim for failure to meet an SLA must be submitted within 3 business days after the end of the contracted month. Compensation for a valid SLA claim will be a credit against a future invoice for the Cloud Service based on the duration of time during which production system processing for the Cloud Service is not available ("Downtime"). Downtime is measured from the time Client reports the event until the time the Cloud Service is restored and does not include time related to a scheduled or announced maintenance outage; causes beyond IBM's control; problems with Client or third party content or technology, designs or instructions; unsupported system configurations and platforms or other Client errors; or Client-caused security incident or Client security testing. IBM will apply the highest applicable compensation based on the cumulative availability of the Cloud Service during each contracted month, as shown in the table below. The total compensation with respect to any contracted month cannot exceed 10 percent of one twelfth (1/12th) of the annual charge for the Cloud Service.

3.2 Service Levels

Availability of the Cloud Service during a contracted month

Availability during a contracted month	Compensation (% of monthly subscription fee* for contracted month that is the subject of a claim)
< 99.8%	2%
< 99.0%	5%
< 95.0%	10%

* If the Cloud Service was acquired from an IBM Business Partner, the monthly subscription fee will be calculated on the then-current list price for the Cloud Service in effect for the contracted month which is the subject of a claim, discounted at a rate of 50%. IBM will make a rebate directly available to Client.

Availability, expressed as a percentage, is calculated as: the total number of minutes in a contracted month minus the total number of minutes of Downtime in a contracted month divided by the total number of minutes in the contracted month.

3.3 Exclusions

The Cloud Service offers protocols that support long lived connections. Note that losing a connection is not considered Downtime. Connections are not held open indefinitely. Client's device or application must have appropriate reconnect logic. Downtime begins if a valid connection attempt fails to complete within 5 minutes.

4. Technical Support

Technical support for the Cloud Service is provided via email, online forums, and an online problem reporting system. IBM's software as a service support guide available at https://www.ibm.com/software/support/saas_support_guide.html provides technical support contact and other information and processes. Technical support is offered with the Cloud Service and is not available as a separate offering.

5. Entitlement and Billing Information

5.1 Charge Metrics

The Cloud Service is available under the charge metric specified in the Transaction Document:

- a. Client Device is a unit of measure by which the Cloud Service can be obtained. A Client Device is a single user computing device or special purpose sensor or telemetry device that requests the execution of, or receives for, execution a set of commands, procedures, or applications from or provides data to another computer system that is typically referred to as a server or is otherwise managed by the server. Multiple Client Devices can share access to a common server. A Client Device can have some processing capability or be programmable to allow a user to do work. Client must obtain entitlements for every Client Device which runs, provides data to, uses services provided by, or otherwise accesses the Cloud Service during the measurement period specified in Client's PoE or Transaction Document.
- b. Capacity Unit is a unit of measure by which the Cloud Service can be obtained. A Capacity Unit is an independent measure of Capacity related to the use of the Cloud Service. Capacity is the maximum amount that something can receive or contain such as; data transmitted, data analyzed, or data stored. Sufficient entitlements must be obtained to cover the total Capacity related to the use of the Cloud Service during the measurement period specified in a Proof of Entitlement (PoE) or Transaction Document.
- c. Instance is a unit of measure by which the Cloud Service can be obtained. An instance is access to a specific configuration of the Cloud Service. Sufficient entitlements must be obtained for each Instance of the Cloud Service made available to access and use during the measurement period specified in Client's PoE or Transaction Document.
- d. Thousand Digital Messages is a unit of measure by which the Cloud Service can be obtained. A Digital Message is an electronic communication managed or processed by the Cloud Service. Sufficient entitlements must be obtained to cover the total number of Digital Messages, rounded up

to the nearest on Thousand, managed or processed by the Cloud Service during the measurement period specified in the Client's Proof of Entitlement (PoE) or Transaction Document.

For purposes of this Cloud Service, the following are the Subscription entitlement and Capacity Unit equivalents for each device type:

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
Watson IoT Platform – Realtime Insights	Per MB of data	0.58	177.78
Watson IoT Platform – Edge	Per MB of data	0.58	1066.67
Registration Service – Number of Devices	Number of registered devices	1	31.00
Cloudant NoSQL 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
Message Hub – Number of Messages	Number of messages	5952	6,000,000
Note: Following data refers to the instance, not related to number of devices			
Cloudant NoSQL DB – 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
Message Hub – 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
Watson IoT Platform – Realtime Insights	Per MB of data	7.57	355.56
Watson IoT Platform – Edge	Per MB of data	7.57	2133.33
Registration Service – Number of Devices	Number of registered devices	1	61.00
Cloudant NoSQL DB – 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
Message Hub – 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 NoSQL DB – Data Storage	MB of storage	10,240.00	
AppID – Authorized Users (Operators)	Number of authorized users	5	485

Service	Units	Consumer Included	Consumer CU
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
Message Hub – 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
Watson IoT Platform – Realtime Insights	Per MB of data	174.38	1777.78
Watson IoT Platform – Edge	Per MB of data	174.38	10,666.67
Registration Service – Number of Devices	Number of registered devices	1	301.00
Cloudant NoSQL DB – 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
Message Hub – Number of Messages	Number of messages	89280	54,000,000

Note: Following data refers to the instance, not related to number of devices

Cloudant NoSQL DB – Data Storage	MB of storage	10,240.00	
AppIID – 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
Message Hub – 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
Watson IoT Platform – Realtime Insights	Per MB of data	2615.63	17,777.78
Watson IoT Platform – Edge	Per MB of data	2615.63	106,666.67
Registration Service – Number of Devices	Number of registered devices	1	3008.00
Cloudant NoSQL DB – Data Storage	Per MB of storage	5231.25	54613.33
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
Message Hub – 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 NoSQL DB – Data Storage	MB of storage	10,240.00	
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Service	Units	Industrial Included	Industrial CU
AppID – Authorized Users (Operators)	Number of authorized users	5	24243
AppID – 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
Message Hub – Number of Partitions	Number of partitions	4	6

5.2 Overage Charges

If actual usage of the Cloud Service during the measurement period exceeds the entitlement specified in the PoE, an overage charge will be billed at the rate specified in the Transaction Document in the month following such overage.

5.3 Pay per Use Charges

A pay per use charge will be billed at the rate specified in the Transaction Document in the month following such use.

5.4 Billing Frequency

Based on selected billing frequency, IBM will invoice Client the charges due at the beginning of the billing frequency term, except for overage and usage type of charges which will be invoiced in arrears.

6. Term and Renewal Options

The term of the Cloud Service begins on the date IBM notifies Client of their access to the Cloud Service, as documented in the PoE. The PoE will specify whether the Cloud Service renews automatically, proceeds on a continuous use basis, or terminates at the end of the term.

For automatic renewal, unless Client provides written notice not to renew at least 90 days prior to the term expiration date, the Cloud Service will automatically renew for the term specified in the PoE. Renewals are subject to an annual price increase as specified in a quote. In the event the automatic renewal is after receipt of an IBM notice of a withdrawal of the Cloud Service, the renewal term will end the earlier of the end of the current renewal term or the announced withdrawal date.

For continuous use, the Cloud Service will continue to be available on a month to month basis until Client provides 90 days written notice of termination. The Cloud Service will remain available to the end of the calendar month after such 90 day period.

7. Additional Terms

7.1 General

Client agrees IBM may publicly refer to Client as a subscriber to the Cloud Services in a publicity or marketing communication.

Client may not use Cloud Services, alone or in combination with other services or products, in support of any of the following high risk activities: design, construction, control, or maintenance of nuclear facilities, mass transit systems, air traffic control systems, automotive control systems, weapons systems, or aircraft navigation or communications, or any other activity where failure of the Cloud Service could give rise to a material threat of death or serious personal injury.