Data Models

Account

The Account resource represents a billing Account.

An Account may be associated with one or more Parties, Bills, and Agreements.

The column `update_datetime` expands the primary key value to indicate changes over time.

Column constraints:

`account_type` = `residential` :: `account_classification` in [`apartment_condo` , `duplex` , `mobile_home` , `multi_family` , `religious_institution` , `single_family` , `townhouse`]

Field	Primary Key	Required	Type	Description
account_id	PK	☑	**string**	Unique external identifier for the Account.
secondary_account_id		☐	string	Unique external secondary identifier for the Account. Often used in the case of a utility acquisition or systems migration.
parent_account_id		☐	string	*References*: `Account.account_id` External identifier of the parent Account. Used to roll account up to a primary or summary account (see `billing_function`).
primary_email_address		☐	string	*Format*: `idn-email` Primary email address for the Account. If this field is provided, it will override any email address mapped to the Account via Party.
billing_function		☐	string	*Allowed values*: `no_bill` , `primary` , `secondary` , `summary` Billing function of the Account. `no_bill` - Account holder is not billed and a meter read never occurs for the bill.

Field	Primary Key	Required	Type	Description
				`primary` - Account holder receives bills and is responsible for payment. This is the most common account role. `secondary` - Account holder is not the primary person billed. Account holder may be billed if Primary Account holder does not pay. Secondary accounts roll up to the parent primary account to produce a cumulative bill composed of secondary account charges. `summary` - Account holder is not billed. Primary accounts roll up to the parent summary account to produce a bill summary across accounts.
name		☐	string	Friendly name of the Account.
account_type		☑	**string**	*Allowed values*: `commercial`, `residential` Indicates if the Account is residential or commercial for billing purposes. `commercial` - Account is commercial. `residential` - Account is residential.
account_classification		☐	string	*Allowed values*: `agriculture`, `apartment_condo`, `commercial`, `duplex`, `educational`, `government`, `industrial`, `mixed_use`, `mobile_home`, `multi_family`, `religious_institution`, `single_family`, `smb`, `townhouse` Indicates the classification of the Account for billing purposes. Allowed residential values: `apartment_condo`, `duplex`, `mobile_home`, `multi_family`,

Field	Primary Key	Required	Type	Description
				`religious_institution`, `single_family`, `townhouse`. Allowed commercial values: `agriculture`, `apartment_condo`, `commercial`, `duplex`, `educational`, `government`, `industrial`, `mixed_use`, `mobile_home`, `multi_family`, `religious_institution`, `single_family`, `smb`, `townhouse`.
status			string	*Allowed values*: `active`, `closed`, `inactive` Current status of the Account. `active` - Account is open and has one or more active Agreements. `closed` - Account is closed. `inactive` - Account is open but does not have any active Agreements.
bill_print_cycle_code			string	*References*: `BillPrintCycle.bill_print_cycle_code` Unique external identifier for the Bill Print Cycle.
bill_print_cycle_effective_start_date			string	*Format*: `date-time` Datetime the Bill Cycle goes into effect for the Account. A full date and timestamp in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples:

Field	Primary Key	Required	Type	Description
				2021-01-03T10:00:00-05:00 (10am New York City local standard time) *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
primary_phone_type			string	*Allowed values*: `daytime`, `evening`, `home`, `mobile`, `work` Primary phone number type for the Account. Preferred values: `home`, `mobile`, `work`. `daytime` - Preferred phone number during daytime hours. `evening` - Preferred phone number during evening hours. `home` - Preferred phone number of place of residence, usually a landline. `mobile` - Preferred cellular / mobile phone number. `work` - Preferred phone number at work location.
primary_phone_number			string	Primary phone number for the Party (including country and area code).
primary_phone_extension			string	Primary phone number extension for the Party.
primary_phone_receives_text			boolean	Indicates whether the primary phone number can receive text messages.
address_freeform			string	*Max_length*: `1024` The Account's entire mailing address in a single field (without the country). If this field is provided, all other address input fields (except country) will be ignored.If an address is not provided on the account, the address associated

Field	Primary Key	Required	Type	Description
				with the `account_holder` Party will be used instead.
address_country			string	Country name or ISO classification of the Account's mailing address (ISO-3, ISO-2 or ISO-N). Address validation will fail if this is missing.If an address is not provided on the account, the address associated with the `account_holder` Party will be used instead.
address_line1			string	First address line of the Account's mailing address.If an address is not provided on the account, the address associated with the `account_holder` Party will be used instead.
address_line2			string	Second address line of the Account's mailing address (if any).If an address is not provided on the account, the address associated with the `account_holder` Party will be used instead.
address_line3			string	Third address line of the Account's mailing address (if any).If an address is not provided on the account, the address associated with the `account_holder` Party will be used instead.
address_line4			string	Fourth address line of the Account's mailing address (if any).If an address is not provided on the account, the address associated with the `account_holder` Party will be used instead.
address_organization			string	Name of the recipient, firm, or company at the Account's mailing address.If an address is not provided on the account, the address associated with the `account_holder` Party will be used instead.

Field	Primary Key	Required	Type	Description
address_city			string	The city name of the Account's mailing address.If an address is not provided on the account, the address associated with the `account_holder` Party will be used instead.
address_administrative_area			string	The state or province name or abbreviation of the Account's mailing address.If an address is not provided on the account, the address associated with the `account_holder` Party will be used instead.
address_postal_code			string	The postal code of the Account's Mailing address.If an address is not provided on the account, the address associated with the `account_holder` Party will be used instead.
start_datetime			string	*Format*: `date-time` Date and time the record goes into effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
end_datetime			string	*Format*: `date-time` Date and time the record is no longer in effect.

Field	Primary Key	Required	Type	Description
				A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
update_datetime	PKOT	☑	**string**	*Format*: `date-time` Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted		☐	boolean	Indicates if the record is flagged for deletion from the Utility.

Agreement

The Agreement resource represents the contractual service agreement between a specific Account and Service Point. A Service Point has one active Agreement at a time. An Account may have one or more active Agreements.

The column `update_datetime` expands the primary key value to indicate changes over time.

Field	Primary Key	Required	Type	Description
agreement_id	PK	☑	**string**	Unique external identifier for the Agreement.
account_id		☑	**string**	*References*: `Account.account_id` Unique external identifier for the associated Account.
agreement_type		☐	string	*Allowed values*: `auxiliary`, `equipment_lease`, `landlord_agreement`, `metered`, `unmetered` Indicates the type of Agreement. `auxiliary` - Agreement for prepaid meters. `equipment_lease` - Agreement for equipment leased to a Party (not related to commodity consumption). `landlord_agreement` - Agreement to assign a landlord as the responsible Party when a renter fails to pay a Bill or moves out. `metered` - Agreement for metered commodity consumption. `unmetered` - Agreement that is unmetered commodity consumption (e.g. streetlights, traffic signals, cameras).
provider		☐	string	Friendly name of the Agreement's provider (typically for unbundled and deregulated use cases).
provider_type		☐	string	*Allowed values*: `distribution`, `distribution_and_supply`, `supply` Indicates the type of provider for commodity-related Agreements (see agreement_type). `distribution` - Agreement provider is responsible for distribution of the commodity to an end user. `distribution_and_supply` - Agreement provider is responsible for supply and distribution of the commodity. `supply` - Agreement provider is responsible for generation and supply of the commodity for a distributor.
start_datetime		☐	string	*Format*: `date-time`

Field	Primary Key	Required	Type	Description
				Date and time the record goes into effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
end_datetime		☐	string	*Format*: `date-time` Date and time the record is no longer in effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
update_datetime	PKOT	☑	**string**	*Format*: `date-time` Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples:

Field	Primary Key	Required	Type	Description
				2021-01-03T10:00:00-05:00 (10am New York City local standard time) *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted			boolean	Indicates if the record is flagged for deletion from the Utility.

Bill

The Bill resource represents the overall costs and dates associated with a billing period.

A Bill belongs to an Account, and may have many Bill Details.

The column `update_datetime` expands the primary key value to indicate changes over time.

Field	Primary Key	Required	Type	Description
bill_id	PK	✅	**string**	Unique external identifier for the Bill.
account_id		✅	**string**	*References*: `Account.account_id` Unique external identifier for the Account.
bill_date			string	*Format*: `date` Month and year that the Bill is attributed to. Can optionally include a Day.
statement_date			string	*Format*: `date` Date the Bill statement is sent. Typically the date printed on the top of a bill.
due_date			string	*Format*: `date` Date the Bill payment is due.
past_due_date			string	*Format*: `date` Date the Bill payment will be considered late if not yet paid.
currency			string	*Allowed values*: `AED`, `AFN`, `ALL`, `AMD`, `ANG`, `AOA`, `ARS`, `AUD`, `AWG`, `AZN`, `BAM`, `BBD`, `BDT`,

Field	Primary Key	Required	Type	Description
				`BGN` , `BHD` , `BIF` , `BMD` , `BND` , `BOB` , `BOV` , `BRL` , `BSD` , `BTN` , `BWP` , `BYN` , `BZD` , `CAD` , `CDF` , `CHE` , `CHF` , `CHW` , `CLF` , `CLP` , `CNY` , `COP` , `COU` , `CRC` , `CUC` , `CUP` , `CVE` , `CZK` , `DJF` , `DKK` , `DOP` , `DZD` , `EGP` , `ERN` , `ETB` , `EUR` , `FJD` , `FKP` , `GBP` , `GEL` , `GHS` , `GIP` , `GMD` , `GNF` , `GTQ` , `GYD` , `HKD` , `HNL` , `HRK` , `HTG` , `HUF` , `IDR` , `ILS` , `INR` , `IQD` , `IRR` , `ISK` , `JMD` , `JOD` , `JPY` , `KES` , `KGS` , `KHR` , `KMF` , `KPW` , `KRW` , `KWD` , `KYD` , `KZT` , `LAK` , `LBP` , `LKR` , `LRD` , `LSL` , `LYD` , `MAD` , `MDL` , `MGA` , `MKD` , `MMK` , `MNT` , `MOP` , `MRU` , `MUR` , `MVR` , `MWK` , `MXN` , `MXV` , `MYR` , `MZN` , `NAD` , `NGN` , `NIO` , `NOK` , `NPR` , `NZD` , `OMR` , `PAB` , `PEN` , `PGK` , `PHP` , `PKR` , `PLN` , `PYG` , `QAR` , `RON` , `RSD` , `RUB` , `RWF` , `SAR` , `SBD` , `SCR` , `SDG` , `SEK` , `SGD` , `SHP` , `SLL` , `SOS` , `SRD` , `SSP` , `STN` , `SVC` , `SYP` , `SZL` , `THB` , `TJS` , `TMT` , `TND` , `TOP` , `TRY` , `TTD` , `TWD` , `TZS` , `UAH` , `UGX` , `USD` , `USN` , `UYI` , `UYU` , `UYW` , `UZS` , `VES` , `VND` , `VUV` , `WST` , `XAF` , `XAG` , `XAU` , `XBA` , `XBB` , `XBC` , `XBD` , `XCD` , `XDR` , `XOF` , `XPD` , `XPF` , `XPT` , `XSU` , `XTS` , `XUA` , `XXX` , `YER` , `ZAR` , `ZMW` , `ZWL` Currency of the Bill Detail charges (ISO-4217 classification).
total_charges			string	*Pattern*: `^[-]?(?!0\d)\d*.?\d*$` Current monthly charges, excluding payments, credits, rebates, and late fees and including all energy charges, taxes, and fees other than late fees.
amount_due			string	*Pattern*: `^[-]?(?!0\d)\d*.?\d*$` Current balance on the bill, including total_charges as well as credits, rebates, and late fees.
is_replacement			boolean	Indicates if the Bill is a cancellation or replacement of a previously received record.
replaces_previous_bill_id			string	Unique external identifier for a canceled Bill that the current Bill replaces.
is_cancellation			boolean	Indicates if the Bill is a cancellation of a previously received record.
start_datetime			string	*Format*: `date-time`

Field	Primary Key	Required	Type	Description
				Date and time the record goes into effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
end_datetime		☐	string	*Format*: `date-time` Date and time the record is no longer in effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
update_datetime	PKOT	☑	**string**	*Format*: `date-time` Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples:

Field	Primary Key	Required	Type	Description
				2021-01-03T10:00:00-05:00 (10am New York City local standard time) *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted			boolean	Indicates if the record is flagged for deletion from the Utility.

Bill Detail

The Bill Detail resource represents the detailed charges that a Bill is composed of.

Bill Detail can be used to enumerate line items that are printed on a physical Bill, enumerate per-commodity usage and cost, or other enumerations a utility might require. Per-commodity costs, taxes, and fees are all examples of individual Bill Details.

Bill Details belong to a Bill and an Agreement or Service Point.

The column `update_datetime` expands the primary key value to indicate changes over time.

Column constraints:

oneOf:

1. `commodity_type` = `electric` :: `commodity_units` in [`kQh` , `kVAh` , `kVAR` , `kVARh` , `kW` , `kWh`]

required: `commodity_type` , `commodity_units` , `commodity_usage`

1. `commodity_type` = `gas` :: `commodity_units` in [`BTU` , `CCF` , `gal` , `kBTU` , `kgal` , `kl` , `l` , `MBTU` , `MCF` , `Mgal` , `Mlbs` , `therms`]

required: `commodity_type` , `commodity_units` , `commodity_usage`

1. `commodity_type` = `steam` :: `commodity_units` in [`BTU` , `CCF` , `gal` , `kBTU` , `kgal` , `kl` , `l` , `MBTU` , `MCF` , `Mgal` , `Mlbs` , `therms`]

required: `commodity_type` , `commodity_units` , `commodity_usage`

1. all not required: `commodity_type` , `commodity_units` ,`commodity_usage
2. (required: `commodity_type`) && (not required: `commodity_units` ,`commodity_usage)

anyOf:

1. `bill_detail_classification` = `energy` :: required: `commodity_type` , `commodity_units` ,`commodity_usage
2. `bill_detail_classification` != `energy` :: oneOf:
3. all required: `commodity_type` , `commodity_units` ,`commodity_usage

4. (required: `commodity_type`) && (not required: `commodity_units`,`commodity_usage)

5. all not required: `commodity_type`, `commodity_units`,`commodity_usage

Field	Primary Key	Required	Type	Description
bill_detail_id	PK	☑	**string**	Unique external identifier for the Bill Detail.
bill_id		☑	**string**	*References*: `Bill.bill_id` Unique external identifier for the Bill.
billing_association_type		☐	string	*Allowed values*: `account`, `agreement`, `billing_group` Indicates the scope of a Bill Detail. `account` - Bill Detail is associated with all Service Points that belong to an Account. `agreement` - Bill Detail is associated with all Service Points that belong to an Agreement. `billing_group` - Bill Detail is associated with all Service Points that belong to a Billing Group.
billing_association_id		☐	string	Unique external identifier for the associated Account, Agreement, or Billing Group.
bill_detail_type		☑	**string**	*Allowed values*: `billed_usage`, `line_item` Indicates the type of Bill Details being enumerated. `billed_usage` - Represents usage and costs aggregated per-commodity. This should not include taxes, fees, or other charges. `line_item` - Represents a line item printed on a physical bill.
bill_detail_code		☐	string	Unique external code representing the Bill Detail. Only applies if `bill_detail_type = line_item`.
bill_detail_description		☐	string	*Max_length*: `1024` Description of the Bill Detail. This description should match what is printed on the Bill if it is printed. Only applies if `bill_detail_type = line_item`.

Field	Primary Key	Required	Type	Description
bill_detail_classification			string	*Allowed values*: `credit_surcharge`, `credit_surcharge_volumetric`, `critical_peak`, `delivery`, `demand`, `energy`, `mid_peak`, `off_peak`, `on_peak`, `other`, `programs_and_fees`, `subscription`, `subtotal`, `taxes` Category of the Bill Detail. Only applies if `bill_detail_type = line_item`. `credit_surcharge` - Fixed debit amount. `credit_surcharge_volumetric` - Variable debit amount. `critical_peak` - Variable charge based on the critical-peak rate associated with the Agreement (not applicable to every TOU rate). `delivery` - Fixed charge for delivery of energy associated with the Agreement. `demand` - Variable charge based on the demand rate associated with the Agreement. `energy` - Variable charge based on a rate that is not time-varying (not Time of Use). Leverage other variable charge categories for Time of Use rates (on-peak, off-peak, critical-peak, mid-peak). `mid_peak` - Variable charge based on the mid-peak rate associated with the Agreement (not applicable to every TOU rate). `off_peak` - Variable charge based on the off-peak rate associated with the Agreement. `on_peak` - Variable charge based on the on-peak rate associated with the Agreement. `other` - Other details that do not contribute to energy charges, programs, fees, subscriptions or credits. `programs_and_fees` - Fixed or variable charge or debit for program involvement (e.g. on-bill assistance, on-bill financing and on-bill payment programs). Programs may be opt-in or universal. `subscription` - Fixed monthly charge for subscription services provided by the utility.

Field	Primary Key	Required	Type	Description
				`subtotal` - Partial variable charge representing a roll up of fees or services. `taxes` - Fixed or variable charge for taxes.
price_type			string	*Allowed values*: `flat`, `consumption`, `calculated`, `no_charge` Type of price for the Bill Detail. `flat` - Fixed price. `consumption` - Variable price based on energy usage. Only Applicable to Commodity related Bill Details. `calculated` - Variable price based on a calculation. Only Applicable to Commodity related Bill Details. `no_charge` - Zero charge price.
commodity_type			string	*Allowed values*: `electric`, `gas`, `water`, `steam` Type of commodity being billed (only applicable for commodity-related Bill Details).
commodity_units			string	*Allowed values*: `kQh`, `kVAh`, `kVAR`, `kVARh`, `kW`, `kWh`, `BTU`, `CCF`, `gal`, `kBTU`, `kgal`, `kl`, `l`, `MBTU`, `MCF`, `Mgal`, `Mlbs`, `therms` Units the commodity is measured in (only applicable for commodity-related Bill Details).
commodity_usage			string	*Pattern*: `^-?[0-9]\d*(.\d+)?$` Amount of the commodity used in the billing period (only applicable for commodity-related Bill Details). Negative usage indicates the commodity being received from a service point. If `bill_detail_classification = energy`, then this value cannot be NULL.
currency			string	*Allowed values*: `AED`, `AFN`, `ALL`, `AMD`, `ANG`, `AOA`, `ARS`, `AUD`, `AWG`, `AZN`, `BAM`, `BBD`, `BDT`, `BGN`, `BHD`, `BIF`, `BMD`, `BND`, `BOB`, `BOV`, `BRL`, `BSD`, `BTN`, `BWP`, `BYN`, `BZD`, `CAD`, `CDF`, `CHE`, `CHF`, `CHW`, `CLF`, `CLP`, `CNY`, `COP`, `COU`, `CRC`, `CUC`, `CUP`, `CVE`, `CZK`, `DJF`,

Field	Primary Key	Required	Type	Description
				`DKK`, `DOP`, `DZD`, `EGP`, `ERN`, `ETB`, `EUR`, `FJD`, `FKP`, `GBP`, `GEL`, `GHS`, `GIP`, `GMD`, `GNF`, `GTQ`, `GYD`, `HKD`, `HNL`, `HRK`, `HTG`, `HUF`, `IDR`, `ILS`, `INR`, `IQD`, `IRR`, `ISK`, `JMD`, `JOD`, `JPY`, `KES`, `KGS`, `KHR`, `KMF`, `KPW`, `KRW`, `KWD`, `KYD`, `KZT`, `LAK`, `LBP`, `LKR`, `LRD`, `LSL`, `LYD`, `MAD`, `MDL`, `MGA`, `MKD`, `MMK`, `MNT`, `MOP`, `MRU`, `MUR`, `MVR`, `MWK`, `MXN`, `MXV`, `MYR`, `MZN`, `NAD`, `NGN`, `NIO`, `NOK`, `NPR`, `NZD`, `OMR`, `PAB`, `PEN`, `PGK`, `PHP`, `PKR`, `PLN`, `PYG`, `QAR`, `RON`, `RSD`, `RUB`, `RWF`, `SAR`, `SBD`, `SCR`, `SDG`, `SEK`, `SGD`, `SHP`, `SLL`, `SOS`, `SRD`, `SSP`, `STN`, `SVC`, `SYP`, `SZL`, `THB`, `TJS`, `TMT`, `TND`, `TOP`, `TRY`, `TTD`, `TWD`, `TZS`, `UAH`, `UGX`, `USD`, `USN`, `UYI`, `UYU`, `UYW`, `UZS`, `VES`, `VND`, `VUV`, `WST`, `XAF`, `XAG`, `XAU`, `XBA`, `XBB`, `XBC`, `XBD`, `XCD`, `XDR`, `XOF`, `XPD`, `XPF`, `XPT`, `XSU`, `XTS`, `XUA`, `XXX`, `YER`, `ZAR`, `ZMW`, `ZWL` Currency of the Bill Detail charges (ISO-4217 classification).
unit_price		☐	string	*Pattern*: `^[-]?(?!0\d)\d*.?\d*$` Unit price for Bill Detail.
charges		☑	**string**	*Pattern*: `^[-]?(?!0\d)\d*.?\d*$` Total amount charged for the Bill (commodity charges only). This should not include taxes, fees, or other charges.
is_estimate		☐	boolean	Indicates if the commodity usage is estimated (only applicable for commodity-related Bill Details).
is_third_party_billed		☐	boolean	Indicates if the Bill Detail is billed by a supplier or retailer.
is_printed_on_bill		☐	boolean	Indicates if the Bill Detail is printed on the Bill.
rate_attribute_key		☐	string	*References*: `RateAttribute.rate_attribute_key` Key of the associated Rate Attribute.
rate_attribute_value		☐	string	*References*: `RateAttribute.rate_attribute_value` Value of the associated Rate Attribute.

Field	Primary Key	Required	Type	Description
start_datetime			string	*Format*: `date-time` Date and time the record goes into effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
end_datetime			string	*Format*: `date-time` Date and time the record is no longer in effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
update_datetime	PKOT	☑	**string**	*Format*: `date-time` Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and**

Field	Primary Key	Required	Type	Description
				UTC offset are not provided. Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted		☐	boolean	Indicates if the record is flagged for deletion from the Utility.

Bill Detail Code Translation

The Bill_Detail_Code_Translation entity enables Utilities to properly map their `bill_detail_code` to Uplight's legacy `bill_detail_classification` enumerations / terminology. This transformation is required to feed Uplight's multiple legacy systems. We are expecting one row per `bill_detail_code` per Utility x the number of downstream Uplight legacy systems that accept a `bill_detail_classification` that hosts functionality purchased by the Utility. When Utilities have multiple `energy_types` (and use the same `bill_detail_code`), expand the number of rows expected to include `energy_type`.

The column `update_datetime` expands the primary key value to indicate changes over time.

Field	Primary Key	Required	Type	Description
bill_detail_code	PK	☑	**string**	Unique code as provided by the Utility. The `bill_detail.bill_detail.code` attribute is a Foreign Key to `bill_detail_code`. This code on the invoice represents the type of charge or refund applied to a rate payer's bill.
downstream_system	PK	☑	**string**	*Allowed values*: `agentis`, `FF`, `SE`, `tendril` Indicates Uplight's legacy system for the specific `bill_detail_code` to `bill_detail_code_category` mapping. `agentis` - Agentis legacy system. `FF` - First Fuel legacy system.

Field	Primary Key	Required	Type	Description
				`SE` - Simple Energy legacy system. `tendril` - Tendril legacy system.
bill_detail_code_category		✅	**string**	*Allowed values*: `demand_charge`, `energy_charge`, `programs_and_fees`, `programs_and_fees_charge`, `subscription_charge`, `subtotal`, `other` Category expected by legacy downstream system.
bill_detail_code_line_item		✅	**string**	*Allowed values*: `adjustments`, `care_discount`, `cca_off_charge`, `cca_on_charge`, `connected_load_charge`, `corrections`, `credit_surcharge`, `credit_surcharge_volumetric`, `critical_peak`, `delivery`, `demand`, `demand_charge`, `demand_charge_rate_limiter`, `energy`, `energy_charge`, `gas_energy_t1_charge`, `gas_energy_t2_charge`, `max_peak_demand_charge`, `mid_peak`, `minimum_charge`, `misc_charge`, `nem_minimum_charge`, `nem_trueup_charge`, `off_demand_charge`, `off_peak`, `off_peak_charge`, `on_peak`, `other`, `part_peak_charge`, `part_peak_demand_charge`, `pdp_adjustment`, `pdp_charge`, `pdp_credit`, `peak_charge`, `peak_demand_charge`, `programs_and_fees`, `sdp_total_charge`, `solar_choice_charge`, `subscription`, `subscription_base_charge`, `subscription_overage_charge`, `subtotal`, `super_off_peak_charge`, `taxes`, `taxes_and_fees` Enumeration expected by legacy downstream system.

Field	Primary Key	Required	Type	Description
energy_type	PK	☑	**string**	*Allowed values*: `electric`, `electricity`, `gas`, `steam` Indicates the type of energy being transmitted for the specific `bill_detail_code`. `electricity` should be deprecated going forward. `electric` should be the standard.
bill_detail_code_category_description		☐	string	Basic description of the `bill_detail_code` as provided by the Utility. May be used by legacy portals in energy consumption graph descriptors.
update_datetime	PKOT	☑	**string**	*Format*: `date-time` Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*

Bill Print Cycle

The Bill Print Cycle resource defines the projected start and end of a billing cycle.

The column `update_datetime` expands the primary key value to indicate changes over time.

Field	Primary Key	Required	Type	Description
bill_print_cycle_code	PK	☑	**string**	Cycle on which the Account receives bills.
bill_print_year_month	PK	☑	**string**	*Format*: `date` Year and Month that the bill is printed (YYYY-MM). Day will be hard-coded to first day of month.
projected_start_date		☐	string	*Format*: `date-time` Projected start datetime of the Bill Cycle (actual `start_datetime` is on Bill). A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
projected_end_date		☐	string	*Format*: `date-time` Projected end datetime of the Bill Cycle (actual `end_datetime` is on Bill). A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*

Field	Primary Key	Required	Type	Description
update_datetime	PKOT	☑	**string**	*Format*: `date-time` Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted		☐	boolean	Indicates if the record is flagged for deletion from the Utility.

Bill Usage Cycle

The Bill Usage Cycle resource represents the cycle on which Service Point(s) are billed.

The column `update_datetime` expands the primary key value to indicate changes over time.

Field	Primary Key	Required	Type	Description
bill_usage_cycle_code	PK	☑	**string**	Cycle on which the Service Point(s) is(are) billed.
bill_usage_year_month	PK	☑	**string**	*Format*: `date` Year and Month that the bill's usage cycle is applied (YYYY-MM). Day will be hard-coded to first day of month.
projected_start_date		☐	string	*Format*: `date-time` Projected creation date of the Bill Cycle.
projected_end_date		☐	string	*Format*: `date-time`

Field	Primary Key	Required	Type	Description
				Projected termination date of the Bill Cycle.
update_datetime	PKOT	☑	**string**	*Format*: `date-time` Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted		☐	boolean	Indicates if the record is flagged for deletion from the Utility.

Billing Group

The Billing Group resource represents the collection of Service Points and devices grouped together for billing purposes. For each active Agreement, one of the following sets of resources should be provided to map Agreements to Service Points (depending on the utility data configuration):

Billing Group and Billing Group Service Point Association - Used when Bill Details and Rate Attributes are associated with a Billing Group, and one or more Billing Groups are associated with an Agreement.

The column `update_datetime` expands the primary key value to indicate changes over time.

Field	Primary Key	Required	Type	Description
billing_group_id	PK	☑	**string**	Unique external identifier for the Billing Group, often referred to as an installation.
agreement_id		☑	**string**	*References*: `Agreement.agreement_id` Unique external identifier for the associated Agreement.

Field	Primary Key	Required	Type	Description
bill_group_created_datetime			string	*Format*: `date-time` Date and time the Billing Group and Agreement relationship goes into effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
bill_group_ended_datetime			string	*Format*: `date-time` Date and time the Billing Group and Agreement relationship is no longer in effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
update_datetime	PKOT	☑	**string**	*Format*: `date-time`

Field	Primary Key	Required	Type	Description
				Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted			boolean	Indicates if the record is flagged for deletion from the Utility.

Billing Group Service Point Association

The Billing Group Service Point Association resource represents the many-to-many relationship between Billing Groups and Service Points. For each active Agreement, one of the following sets of resources should be provided to map Agreements to Service Points (depending on the utility data configuration):

Billing Group and Billing Group Service Point Association - Used when Bill Details and Rate Attributes are associated with a Billing Group, and one or more Billing Groups are associated with an Agreement.

The column `update_datetime` expands the primary key value to indicate changes over time.

Field	Primary Key	Required	Type	Description
billing_group_id	PK	✅	**string**	*References*: `BillingGroup.billing_group_id` Unique external identifier for the Billing Group, often referred to as an installation.
service_point_id	PK	✅	**string**	*References*: `ServicePoint.service_point_id`

Field	Primary Key	Required	Type	Description
				Unique external identifier for the associated Service Point.
association_created_datetime			string	*Format*: `date-time` Date and time the Billing Group and Service Point relationship goes into effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
association_ended_datetime			string	*Format*: `date-time` Date and time the Billing Group and Service Point relationship is no longer in effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*

Field	Primary Key	Required	Type	Description
billing_calculation_method			string	*Allowed values*: `additive`, `informational`, `subtractive` Indicates how Usage at the associated Service Point is billed. `additive` - Usage at the Service Point is added to the total on the Billing Group's Bill. Typically used when a property owner is responsible for all Usage costs at a Service Location. `informational` - Usage at the Service Point is for informational purposes only and not factored into the Billing Group's Bill. `subtractive` - Usage at the Service Point is subtracted from the total on the Billing Group's Bill. Typically used when a property owner is responsible for common area Usage at a Service Location, but tenants have sub meters that are billed separately.
update_datetime	PKOT	☑	**string**	*Format*: `date-time` Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted			boolean	Indicates if the record is flagged for

Field	Primary Key	Required	Type	Description
				deletion from the Utility.

Digital Identity

The Digital Identity resource represents a Party's web presence. A Party may have many Digital Identities that enable unique web portal access or other login capabilities.

The column `update_datetime` expands the primary key value to indicate changes over time.

Column constraints:

oneOf:

1. `digital_identity_type` = `email` :: `digital_identity_value` : type = `string` && format = `idn-email`
2. `digital_identity_type` = `phone` :: `digital_identity_value` : type = `string`
3. `digital_identity_type` = `other` :: `digital_identity_value` : type = `string`
4. `digital_identity_type` = `username` :: `digital_identity_value` : type = `string`

Field	Primary Key	Required	Type	Description
digital_identity_id	PK	☑	**string**	Unique external identifier for the Digital Identity. This identifier should align with SSO requirements if applicable.
party_id		☑	**string**	*References*: `Party.party_id` Unique external identifier for the associated Party.
digital_identity_type		☐	string	*Allowed values*: `email`, `other`, `phone`, `username` The type of Digital Identity that enables unique access for a given Party.
digital_identity_value		☐	string	The value of the Digital Identity. This must match the username_id if leveraging SAML SSO.
start_datetime		☐	string	*Format*: `date-time` Date and time the record goes into effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.*

Field	Primary Key	Required	Type	Description
				Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided. Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
end_datetime		☐	string	*Format*: `date-time` Date and time the record is no longer in effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
update_datetime	PKOT	☑	**string**	*Format*: `date-time` Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*

Field	Primary Key	Required	Type	Description
is_deleted			boolean	Indicates if the record is flagged for deletion from the Utility.

Interval Usage

The Interval Usage resource represents interval usage data (most commonly AMI and AMR data).

The column `update_datetime` expands the primary key value to indicate changes over time.

Column constraints:

oneOf:

1. `energy_direction` = `net` :: `commodity_usage` pattern: `^-?[0-9]\d*(\.\d+)?$`

2. `energy_direction` in [`delivered` , `received`] :: `commodity_usage` pattern: `^[0-9]\d*(\.\d+)?$`

Field	Primary Key	Required	Type	Description
meter_id	PK	✅	**string**	*References*: `Meter.meter_id` Unique external identifier for the associated Meter.
channel_id	PK	✅	**string**	*References*: `MeterChannel.channel_id` Unique external identifier for the associated channel.
read_end_datetime	PK	✅	**string**	*Pattern*: `^\d{4}-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9])+-:[0-5][0-9]$` Date and time of the end of the Interval Usage reading. A full date and time in local time (time at the physical location of energy consumption) with UTC offset is required, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Records without a timestamp and UTC offset are invalid.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)*

Field	Primary Key	Required	Type	Description
				2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)
interval_units			string	*Allowed values*: `day`, `hour`, `minute`, `second` Interval unit of the Interval Usage reading.
interval_value			integer	*Minimum*: `1` Duration of the Interval Usage reading in the specified `interval_units`.
commodity_usage			string	Amount of the commodity used in the interval. Negative values are only accepted when `energy_direction` is `net`.
commodity_units			string	*Allowed values*: `kQh`, `kVAh`, `kVAR`, `kVARh`, `kW`, `kWh`, `BTU`, `CCF`, `gal`, `kBTU`, `kgal`, `kl`, `l`, `MBTU`, `MCF`, `Mgal`, `Mlbs`, `therms` Units the commodity is measured in.
energy_direction			string	*Allowed values*: `delivered`, `net`, `received` Indicates the direction of commodity flow for the Channel. `delivered` - The commodity is delivered to the Channel. For clarity, thisindicates that energy is flowing to the Service Point Meter fromthe grid. `net` - The commodity is delivered to and received from the Channel. commodity_usage can be negative in this instance if more energy is received rather than delivered. `received` - The commodity is received from the Channel. For clarity, thisindicates that energy is flowing from the Service Point Meterto the grid.
is_estimate			boolean	Indicates if the Interval Usage is estimated.
is_outage			boolean	Indicates if part or all of the Interval Usage period coincided with a service outage.
update_datetime	PKOT	☑	**string**	*Format*: `date-time` Date and time that the record was last modified.

Field	Primary Key	Required	Type	Description
				A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted		☐	boolean	Indicates if the record is flagged for deletion from the Utility.

Meter Channel

The Meter Channel resource represents the physical device that channels a commodity to a specific direction within a Meter. The Meter Channel is updated when new meter hardware is installed at a Service Point.

The column `update_datetime` expands the primary key value to indicate changes over time.

Field	Primary Key	Required	Type	Description
meter_id	PK	☑	**string**	*References*: `Meter.meter_id` Unique external identifier for the Meter.
channel_id	PK	☑	**string**	Unique external identifier for the associated channel.
energy_direction		☐	string	*Allowed values*: `delivered`, `net`, `received` Indicates the direction of commodity flow for the Channel.We track this value to enhance query performance. `delivered` - The commodity is delivered to the Channel. For clarity, thisindicates that energy is flowing to the Service Point Meter fromthe grid. `net` - The commodity is delivered to and received from the Channel. commodity_usage

Field	Primary Key	Required	Type	Description
				can be negative in this instance if more energy is received rather than delivered. `received` - The commodity is received from the Channel. For clarity, thisindicates that energy is flowing from the Service Point Meterto the grid.
commodity_units			string	*Allowed values*: `kQh`, `kVAh`, `kVAR`, `kVARh`, `kW`, `kWh`, `BTU`, `CCF`, `gal`, `kBTU`, `kgal`, `kl`, `l`, `MBTU`, `MCF`, `Mgal`, `Mlbs`, `therms` Units the commodity is measured in for the specific channel.
interval_value			integer	*Minimum*: `1` Duration of the channel reading in the specified `interval_units`.
interval_units			string	*Allowed values*: `day`, `hour`, `minute`, `second` Interval unit of the reading for the specific channel.
measurement_strategy			string	*Allowed values*: `i`, `s` Some values that come into interval_usage will/should arrive on every interval, some will onlyrecord when those values rise until it hits a time threshold (i.e. Billing Cycle, never, etc).This differs from AMI/AMR as this value is measured in each interval but reported sporadicallywhen a higher value arrives.To provide an example of how this will be used, we will focus on astream of kW values. kW will represent peak energy usage being used at each interval. If theutility customer is intending to provide Uplight every kW value for each interval, then pleaseprovide an “i” (or Measured each Interval) in this field. If the utility customer is intendingto provide Uplight only when the kW values are increased in an interval (and thereby submittingdata sporadically) they should provide an “s” in this field.Column constraints:oneOf:1. `energy_direction` = `net` :: `commodity_usage` : pattern = `^-?[0-9]\d*(\.\d+)?$` 2. `energy_direction` in [`delivered`, `received`] :: `commodity_usage` : pattern = `^[0-9]\d*(\.\d+)?$`

Field	Primary Key	Required	Type	Description
				`i` - Measured/Reported Each Interval (default). `s` - Measured Each Interval/Reported sporadically when a higher value arrives. (Scalar Values).
start_datetime		☐	string	*Format*: `date-time` Date and time the record goes into effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
end_datetime		☐	string	*Format*: `date-time` Date and time the record is no longer in effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
update_datetime	PKOT	☑	**string**	*Format*: `date-time` Date and time that the record was last modified.

Field	Primary Key	Required	Type	Description
				A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted		☐	boolean	Indicates if the record is flagged for deletion from the Utility.

Meter

The Meter resource represents the physical device that measures the amount of a commodity delivered or received at a Service Point. The Meter is updated when new meter hardware is installed at a Service Point.

The column `update_datetime` expands the primary key value to indicate changes over time.

Field	Primary Key	Required	Type	Description
meter_id	PK	☑	**string**	Unique external identifier for the Meter.
service_point_id		☑	**string**	*References*: `ServicePoint.service_point_id` Unique external identifier for the associated Service Point.
reading_type		☐	string	*Allowed values*: `ami` , `amr` , `emr` , `non_metered` Indicates the type of reading the Meter provides. `ami` - advanced metering infrastructure (An integrated system of smart meters,communications networks, and data management systems that enables two-way communicationbetween utilities and customers) `amr` - automatic meter reading

Field	Primary Key	Required	Type	Description
				`emr` - electronic meter reading `non_metered` - no meter present
install_datetime			string	*Format*: `date-time` Date and time the Meter is installed at the Service Point. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
remove_datetime			string	*Format*: `date-time` Date and time the Meter is removed from the Service Point. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_virtual_meter			boolean	Indicates if the Meter is virtual.
update_datetime	PKOT	☑	**string**	*Format*: `date-time`

Field	Primary Key	Required	Type	Description
				Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted		☐	boolean	Indicates if the record is flagged for deletion from the Utility.

Object Attribute

Object Attributes enable utilities to add arbitrary key/value pairs to objects. These Object Attributes are used to determine program eligibility, support analytics models like energy disaggregation, and more.

The column `update_datetime` expands the primary key value to indicate changes over time.

Field	Primary Key	Required	Type	Description
object_type	PK	☑	**string**	*Allowed values*: `account`, `party`, `service_location` Indicates the type of object the attribute is associated with.
object_id	PK	☑	**string**	Unique external identifier of the associated object.
attribute_name	PK	☑	**string**	Name of the attribute.
attribute_value	PK	☑	**string**	Value of the attribute (must be formatted as a string).
start_datetime		☐	string	*Format*: `date-time` Date and time the record goes into effect.

Field	Primary Key	Required	Type	Description
				A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
end_datetime		☐	string	*Format*: `date-time` Date and time the record is no longer in effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
update_datetime	PKOT	☑	**string**	*Format*: `date-time` Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples:

Field	Primary Key	Required	Type	Description
				2021-01-03T10:00:00-05:00 (10am New York City local standard time) *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted		☐	boolean	Indicates if the record is flagged for deletion from the Utility.

Party

The Party resource represents an individual (customer), business, or business unit that is associated with one or more Accounts. A Party has an explicit Role for each Account it is associated with (see Role) that allows for fine grain permission access, preference inheritance, and distinguishes primary Account holders from other authorized parties. A Party may have one or more Digital Identities.

The column `update_datetime` expands the primary key value to indicate changes over time.

Field	Primary Key	Required	Type	Description
party_id	PK	☑	**string**	Unique external identifier for the Party. Often referred to as the `customer_id`.
secondary_party_id		☐	string	Unique secondary external identifier for the Party. Often used in the case of a utility acquisition or systems migrations.
parent_party_id		☐	string	*References*: `Party.party_id` Identifier of the parent Party. Often used to associate an individual or business unit to a business or business unit.
party_type		☑	**string**	*Allowed values*: `individual`, `organization` Indicates if the Party is an Individual or an Organization. An organization may be a business or business unit.
party_classification		☐	string	*Allowed values*: `commercial_industrial`, `other`, `residential`,

Field	Primary Key	Required	Type	Description
				`residential_commercial`, `residential_streetlight` Classification of the Party.
given_name			string	Given name (commonly the 'first name') of the individual or primary point of contact for the organization.
family_name			string	Family name (commonly the 'last name') of the individual or primary point of contact for the organization.
preferred_name			string	Preferred name of the individual or primary point of contact for the organization.
full_name			string	Full name of the individual or primary point of contact for the organization. Syntax for full_name is given_name + space + family_name. For example: `Sam Smith', 'Jane Doe'
name_prefix			string	*Allowed values*: `Atty`, `Brother`, `Dr`, `Hon`, `Mr`, `Mrs`, `Ms`, `Prince`, `Prof`, `Rabbi`, `Rev`, `Sister` Name prefix is a title or designation held by the individual.
name_suffix			string	*Allowed values*: `II`, `III`, `IV`, `CPA`, `DDS`, `Esq`, `JD`, `Jr`, `LLD`, `MD`, `PhD`, `Ret`, `RN`, `Sr` Name suffix indicates that the individual holds a position, educational degree, accreditation, office, or honor.
title			string	Official business title of the individual or primary point of contact for the organization.
organization_name			string	Official name of the organization. Often referred to as the business name.

Field	Primary Key	Required	Type	Description
can_contact			boolean	Indicates if a Party can be contacted or has opted out from all communications.
primary_phone_type			string	*Allowed values*: `daytime`, `evening`, `home`, `mobile`, `work` Primary phone number type for the Party. Preferred values: home, mobile, work. `daytime` - Preferred phone number during daytime hours. `evening` - Preferred phone number during evening hours. `home` - Preferred phone number of place of residence, usually a landline. `mobile` - Preferred cellular / mobile phone number. `work` - Preferred phone number at work location.
primary_phone_number			string	Primary phone number for the Party (including country and area code).
primary_phone_extension			string	Primary phone number extension for the Party.
primary_phone_receives_texts			boolean	Indicates whether the primary phone number can receive text messages.
secondary_phone_type			string	*Allowed values*: `daytime`, `evening`, `home`, `mobile`, `work` Secondary phone number type for the Party. Preferred values: home, mobile, work. `daytime` - Preferred phone number during daytime hours. `evening` - Preferred phone number during evening hours. `home` - Preferred phone number of place of residence, usually a landline.

Field	Primary Key	Required	Type	Description
				`mobile` - Preferred cellular / mobile phone number. `work` - Preferred phone number at work location.
secondary_phone_number			string	Secondary phone number for the Party (including country and area code).
secondary_phone_extension			string	Secondary phone number extension for the Party.
secondary_phone_receives_texts			boolean	Indicates whether the secondary phone number can receive text messages.
primary_email_address			string	*Format*: `idn-email` Primary email address for the Party.
secondary_email_address			string	*Format*: `idn-email` Secondary email address for the Party.
address_freeform			string	*Max_length*: `1024` The Party's entire mailing address in a single field (without the country). If this field is provided, all other address input fields (except country) will be ignored.
address_country			string	Country name or ISO classification of the Party's mailing address (ISO-3, ISO-2 or ISO-N). Address validation will fail if this is missing.
address_line1			string	First address line of the Party's mailing address.
address_line2			string	Second address line of the Party's mailing address (if any).
address_line3			string	Third address line of the Party's mailing address (if any).

Field	Primary Key	Required	Type	Description
address_line4			string	Fourth address line of the Party's mailing address (if any).
address_organization			string	Name of the recipient, firm, or company at the Party's mailing address.
address_city			string	The city name of the Party's mailing address.
address_administrative_area			string	The state or province name or abbreviation of the Party's mailing address.
address_postal_code			string	The postal code of the Party's Mailing address.
start_datetime			string	*Format*: `date-time` Date and time the record goes into effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
end_datetime			string	*Format*: `date-time` Date and time the record is no longer in effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset,

Field	Primary Key	Required	Type	Description
				following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
update_datetime	PKOT	☑	**string**	*Format:* `date-time` Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted		☐	boolean	Indicates if the record is flagged for deletion from the Utility.

Program

The Program resource represents the programs available for enrollment.

The column `update_datetime` expands the primary key value to indicate changes over time.

Field	Primary Key	Required	Type	Description
program_id	PK	☑	**string**	Unique external identifier for the Program.
name		☐	string	Name of the Program.
program_description		☐	string	*Max_length*: `1024` Description of the Program.
start_datetime		☐	string	*Format*: `date-time` Date and time the record goes into effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
end_datetime		☐	string	*Format*: `date-time` Date and time the record is no longer in effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
update_datetime	PKOT	☑	**string**	*Format*: `date-time`

Field	Primary Key	Required	Type	Description
				Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted			boolean	Indicates if the record is flagged for deletion from the Utility.

Program Enrollment

The Program Enrollment resource represents the Programs that an Account, Party, Service Location or Service Point are enrolled in.

The column `update_datetime` expands the primary key value to indicate changes over time.

Field	Primary Key	Required	Type	Description
program_id	PK	✅	**string**	*References*: `Program.program_id` Unique external identifier for the associated Program.
enrollment_association_type	PK	✅	**string**	*Allowed values*: `account`, `agreement`, `digital_identity`, `party`, `service_location`, `service_point` Indicates the scope of the Program Enrollment.
enrollment_association_id	PK	✅	**string**	Unique external identifier for the associated entity.
start_datetime		✅	**string**	*Format*: `date-time`

Field	Primary Key	Required	Type	Description
				Date and time the record goes into effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
end_datetime		☐	string	*Format*: `date-time` Date and time the record is no longer in effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
update_datetime	PKOT	☑	**string**	*Format*: `date-time` Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.*

Field	Primary Key	Required	Type	Description
				Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided. Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted			boolean	Indicates if the record is flagged for deletion from the Utility.

Rate Association

The Rate Association resource represents which Rate Attributes are currently active for a utility customer via a Billing Group or Agreement.

The column `update_datetime` expands the primary key value to indicate changes over time.

Field	Primary Key	Required	Type	Description
billing_association_type	PK	✅	**string**	*Allowed values*: `account`, `agreement`, `billing_group` Indicates the scope of a Rate Attribute. `account` - Bill Detail is associated with all Service Points that belong to an Account. `agreement` - Bill Detail is associated with all Service Points that belong to an Agreement. `billing_group` - Bill Detail is associated with all Service Points that belong to a Billing Group.
billing_association_id	PK	✅	**string**	Unique external identifier for the associated Billing Group or Agreement.
rate_attribute_key	PK	✅	**string**	*References*: `RateAttribute.rate_attribute_key` Key of the associated Rate Attribute.

Field	Primary Key	Required	Type	Description
rate_attribute_value	PK	☑	**string**	*References*: `RateAttribute.rate_attribute_value` Value of the associated Rate Attribute.
override_rate_value			string	*Pattern*: `^-?[0-9]\d*(.\d+)?$` Override or makeup charge for a rate per `rate_calculation`. Typically only used when a rate attribute's `rate_value` has an unusually high number of values and therefore not enumerated in the Utility's source system. Also common when the rate attribute is actually a characteristic of an account/agreement. For example, if the running 12 month average electricity consumption in kWh for an agreement is used to calculate the rate that the rate payer pays for electricity consumption, the `override_rate_value` allows you to identify the 12 month average kWh and tie it to the appropriate billing entity.Future Consideration: UIS 4.0 may move the location of these types of characteristic data.
start_datetime			string	*Format*: `date-time` Date and time the record goes into effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
end_datetime			string	*Format*: `date-time` Date and time the record is no longer in effect. A full date and time in local time (time at the physical location of energy consumption) with

Field	Primary Key	Required	Type	Description
				UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
update_datetime	PKOT	☑	**string**	*Format*: `date-time` Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted		☐	boolean	Indicates if the record is flagged for deletion from the Utility.

Rate Attribute

The Rate Attribute resource represents rate codes and other rate attributes available to utility customers. A utility customer may have many Agreements with many active Rate Attributes.

The column `update_datetime` expands the primary key value to indicate changes over time.

Field	Primary Key	Required	Type	Description
rate_attribute_key	PK	☑	**string**	Key identifying the type of Rate Attribute. This should be 'rate_code' if the Rate Attribute is a rate code.
rate_attribute_description		☐	string	*Max_length*: `1024` Description of the `rate_attribute_key`.
rate_attribute_value	PK	☑	**string**	Value of the Rate Attribute. This is the actual rate code if `rate_attribute_key = rate_code`.
rate_value		☐	string	*Pattern*: `^-?[0-9]\d*(.\d+)?$` Amount charged for a rate per `rate_calculation`.
rate_calculation		☐	string	*Allowed values*: `kQh`, `kVAh`, `kVAR`, `kVARh`, `kW`, `kWh`, `BTU`, `CCF`, `gal`, `kBTU`, `kgal`, `kl`, `l`, `MBTU`, `MCF`, `Mgal`, `Mlbs`, `therms`, `flat`, `percentage` Specifies the commodity units in which the `rate_value` was calculated against (i.e. kWh, CCF), a `percentage` (often used for tax rates), or a `flat` fee.
start_datetime		☐	string	*Format*: `date-time` Date and time the record goes into effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
end_datetime		☐	string	*Format*: `date-time`

Field	Primary Key	Required	Type	Description
				Date and time the record is no longer in effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
update_datetime	PKOT	☑	**string**	*Format*: `date-time` Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted		☐	boolean	Indicates if the record is flagged for deletion from the Utility.

Rate Attribute Event

The Rate Attribute Event resource represents rate codes, attributes, and other structures that are defined for critical energy use for Utility deployment to the grid.

The column `update_datetime` expands the primary key value to indicate changes over time.

Field	Primary Key	Required	Type	Description
rate_attribute_event_id	PK	☑	**string**	Unique external identifier for the rate attribute event. Can be a concatenation of `rate_attribute_key`, `rate_attribute_value`, and `event_start_datetime`.
rate_attribute_key			string	*References*: `RateAttribute.rate_attribute_key` Key identifying the type of Rate Attribute. This should be 'rate_code' if the Rate Attribute is a rate code.
rate_attribute_value			string	*References*: `RateAttribute.rate_attribute_value` Value of the Rate Attribute. This is the actual rate code if `rate_attribute_key = rate_code`.
duration			integer	*Minimum*: `1` Indicates the duration of length (in days) that the applicable rate attribute event shall apply.
event_start_datetime			string	*Format*: `date-time` The date and time that a rate attribute event takes effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
event_end_datetime			string	*Format*: `date-time` The date and time that a rate attribute event no longer applies, if applicable.

Field	Primary Key	Required	Type	Description
				A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
update_datetime	PKOT	☑	**string**	*Format*: `date-time` Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted		☐	boolean	Indicates if the record is flagged for deletion from the Utility.

Read Cycle

The Read Cycle resource represents the cycle on which Meters are read at a Service Point.

The column `update_datetime` expands the primary key value to indicate changes over time.

Field	Primary Key	Required	Type	Description
read_cycle_code	PK	☑	**string**	Cycle on which the Meter(s) is(are) read at a Service Point.
read_cycle_year_month		☐	string	*Format*: `date` Year and month that the Read Cycle is attributed to (YYYY-MM). Day will be hard-coded to first day of month.
projected_start_date		☐	string	*Format*: `date-time` Expected datetime of the first day of the Read Cycle.
projected_end_date		☐	string	*Format*: `date-time` Expected datetime of the last day of the Read Cycle.
update_datetime	PKOT	☑	**string**	*Format*: `date-time` Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted		☐	boolean	Indicates if the record is flagged for deletion from the Utility.

Role

The Role resource represents the relationship between a Party and an Account, including the role that a Party has in relation to an Account.

A Party may have many Accounts, and an Account many Parties.

The column `update_datetime` expands the primary key value to indicate changes over time.

Field	Primary Key	Required	Type	Description
party_id	PK	☑	**string**	*References*: `Party.party_id` Unique external identifier for the associated Party.
account_id	PK	☑	**string**	*References*: `Account.account_id` Unique external identifier for the associated Account.
role_type		☑	**string**	*Allowed values*: `account_holder`, `authorized_party` Identifies the related Party as the Account Holder or an Authorized Party. A Party can change roles, but can only have one role at a time. `account_holder` - Party is financially and legally responsible for the Account. `authorized_party` - Party is authorized by the `account_holder` to have access to the Account (see `role_function`).
role_function		☐	string	*Allowed values*: `additional_party`, `billing`, `facility`, `guarantor`, `property_manager`, `property_owner`, `responsible_party`, `utility_account_manager` The functional role of an `authorized_party`. This should be `null` if the `role_type` is `account_holder`. `additional_party` - The Party is a customer of the Account, but is not financially responsible for the Account. `billing` - The Party is the individual in charge of paying the Bill when the `account_holder` is an Organization. `facility` - The Party is a facility manager who signs off on commodity usage before a Bill is paid. `guarantor` - The Party may not be actively involved in managing the account, but ultimately guarantees the account balance. `property_manager` - The Party can carry out management functions on associated accounts on

Field	Primary Key	Required	Type	Description
				behalf of a `property_owner` during lapses in tenant occupancy. `property_owner` - The Party may own multiple Service Locations and Service Points. When a tenant moves out, the account would go back into their name until a new tenant signs up for service. Parties associated with this Role can add/remove Service Locations and add/remove Agreements and Rates with the utility. `responsible_party` - The Party is a caretaker or other individual who is authorized to see and handle late bills and other notices. `utility_account_manager` - The Party is the Account Manager at the utility.
start_datetime			string	*Format*: `date-time` Date and time the record goes into effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'*. **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
end_datetime			string	*Format*: `date-time` Date and time the record is no longer in effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'*. **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples:

Field	Primary Key	Required	Type	Description
				2021-01-03T10:00:00-05:00 (10am New York City local standard time) *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
update_datetime	PKOT	☑	**string**	*Format*: `date-time` Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'*. **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted		☐	boolean	Indicates if the record is flagged for deletion from the Utility.

Service Location

The Service Location resource represents a grouping of one or more Service Points at a physical location or address. Often referred to as a Premise.

The column `update_datetime` expands the primary key value to indicate changes over time.

Field	Primary Key	Required	Type	Description
service_location_id	PK	☑	**string**	Unique external identifier for the Service Location.
area_units		☐	string	*Allowed values*: `square_feet`, `square_meters` Units the area is measured in.
area		☐	string	*Pattern*: `^[0-9]\d*(.\d+)?$`

Field	Primary Key	Required	Type	Description
				Surface area of the physical building at the Service Location.
service_location_type			string	*Allowed values*: `agriculture`, `apartment_condo`, `commercial`, `duplex`, `educational`, `government`, `industrial`, `mixed_use`, `mobile_home`, `multi_family`, `religious_institution`, `single_family`, `smb`, `townhouse` Indicates the classification of the type of building or structure at the Service Location.
latitude			string	*Pattern*: `^[-+]?([1-8]?\d(.\d+)?|90(.0+)?)$` Latitude of the Service Location. Provide positive and negative values, not cardinal directions.
longitude			string	*Pattern*: `^[-+]?(180(.0+)?|((1[0-7]\d)|([1-9]?\d))(.\d+)?)$` Longitude of the Service Location. Provide positive and negative values, not cardinal directions.
name			string	Friendly name of the Service Location.
address_district			string	The district or neighborhood of the Service Location's physical address.
start_datetime			string	*Format*: `date-time` Date and time the record goes into effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)*

Field	Primary Key	Required	Type	Description
				2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)
end_datetime			string	*Format*: `date-time` Date and time the record is no longer in effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
address_freeform			string	*Max_length*: `1024` The Service Location's entire mailing address in a single field (without the country). If this field is provided, all other address input fields (except country) will be ignored.
address_country			string	Country name or ISO classification of the Service Location's mailing address (ISO-3, ISO-2 or ISO-N). Address validation will fail if this is missing.
address_line1			string	First address line of the Service Location's mailing address.
address_line2			string	Second address line of the Service Location's mailing address (if any).
address_line3			string	Third address line of the Service Location's mailing address (if any).

Field	Primary Key	Required	Type	Description
address_line4		☐	string	Fourth address line of the Service Location's mailing address (if any).
address_organization		☐	string	Name of the recipient, firm, or company at the Service Location's mailing address.
address_city		☐	string	The city name of the Service Location's mailing address.
address_administrative_area		☐	string	The state or province name or abbreviation of the Service Location's mailing address.
address_postal_code		☐	string	The postal code of the Service Location's Mailing address.
update_datetime	PKOT	☑	**string**	*Format*: `date-time` Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted		☐	boolean	Indicates if the record is flagged for deletion from the Utility.

Service Point

The Service Point resource represents a fixed point at a Service Location where a Meter is installed and a commodity is delivered or received. A Service Location may have one or more active Service Points. The service_point_id does not change, even when an associated Meter or Party changes. A Service Point is only deleted if it is removed from the grid.

The column `update_datetime` expands the primary key value to indicate changes over time.

Field	Primary Key	Required	Type	Description
service_point_id	PK	☑	**string**	Unique external identifier for the Service Point.
secondary_service_point_id		☐	string	Unique external identifier for a Service Point where an alternate or supplemental identifier is needed.
service_location_id		☑	**string**	*References*: `ServiceLocation.service_location_id` Unique external identifier for the associated Service Location.
name		☐	string	Friendly name of the Service Point.
commodity_type		☐	string	*Allowed values*: `electric`, `gas`, `water`, `steam` Type of commodity being measured at the Service Point.
latitude		☐	string	*Pattern*: `^[-+]?([1-8]?\d(.\d+)?|90(.0+)?)$` Latitude of the Service Point. Provide positive and negative values, not cardinal directions.
longitude		☐	string	*Pattern*: `^[-+]?(180(.0+)?|((1[0-7]\d)|([1-9]?\d))(.\d+)?)$` Longitude of the Service Point. Provide positive and negative values, not cardinal directions.
industry_code_type		☐	string	*Allowed values*: `cnae`, `isic`, `naics`, `sic` Code system used to classify the primary line of business or activity at the Service Location. `cnae` - CNAE Codes `isic` - ISIC Codes `naics` - NAICS Codes

Field	Primary Key	Required	Type	Description
				`sic` - SIC Codes
industry_code			string	Code that classifies the primary line of business or activity at the Service Location. Codes must align to a standard system (see `industry_code_type`)
distributor			string	Unique external identifier for the company responsible for operation of the Service Location's distribution network.
distributor_work_district			string	Unique external identifier for the company district office responsible for operation of the Service Location's distribution network.
connection_status			string	*Allowed values*: `connected`, `disconnected` Current connection status of the Service Point. `connected` - Service point is connected. `disconnected` - Service point is not connected.
service_point_classification			string	*Allowed values*: `agricultural`, `biofuel_generation`, `cogeneration`, `commercial`, `electric_vehicle_business`, `electric_vehicle_residential`, `geothermal_generation`, `industrial`, `net_metering`, `night_light`, `outbuilding`, `residential`, `solar_generation`, `street_light`, `temporary`, `unmetered`, `unmetered_communication`, `unmetered_street_light`, `unmetered_traffic`, `unspecified_generation`, `utility_infrastructure`, `water_generation`, `wind_generation` Classification of the primary function of the Service Point. `agricultural` - A structure designed to house farm implements, hay, grain, poultry, livestock or otheragricultural products.

Field	Primary Key	Required	Type	Description
				`biofuel_generation` - A location where energy is produced through contemporary processes from biomass, rather thanby the very slow geological processes involved in the formation of fossil fuels, such as oil. `cogeneration` - A location where the generation of electricity and other energy jointly, especially theutilization of the steam left over from electricity generation to produce heat. `commercial` - A location which is commonly divided into following categories: Office buildings,Retail/Restaurant, Multifamily, Land, Industrial, Hospitality, Medical, Self-storage, etc.... `electric_vehicle_business` - A connection point for one or more electrical vehicle charging stations at anon-residential location. `electric_vehicle_residential` - The point of connection between the facilities of the serving utility and the premises wiringsystem in a residence. `geothermal_generation` - A location where energy is generated from heat within the earth. `industrial` - Factories or other large premises primarily used for manufacturing or storing raw materials,goods, or services for economic purposes. `net_metering` - The commodity is delivered to and received from the Service Point.. `night_light` - A location of light which is primarily active only at night. `outbuilding` - A building such as a shed, barn, or garage on the same property but separate from moreimportant one, such as a house. `residential` - A structure containing one to four dwelling units. `solar_generation` - A location where energy is generated from light from the sun,

Field	Primary Key	Required	Type	Description
				usually from photovoltaiccells. `street_light` - A location of light primarily used to illuminate a street or road. `temporary` - A structure which are erected to fill a temporary need, lasting for hours, days, weeks, andsometimes months instead of years. `unmetered` - A structure not measured or assessed by means of a meter. `unmetered_communication` - A communication station not measured or assessed by means of a meter. `unmetered_street_light` - A street light not measured or assessed by means of a meter. `unmetered_traffic` - A traffic control station not measured or assessed by means of a meter. `unspecified_generation` - An unspecified location where energy is generated. `utility_infrastructure` - Infrastructure required by a utility to deliver services, including pipes, conduits, valves,manholes, hydrants, etc... `water_generation` - A location where energy is generated from water, usually by using a dam or diversionstructure to alter the natural flow of a river or other body of water. `wind_generation` - A location where energy is generated from wind, usually from rotor blades on wind turbines.
has_aclm			boolean	Indicates if the Service Point has an Air Conditioning Load Management (ACLM) switch installed.
read_cycle_code			string	*References*: `ReadCycle.read_cycle_code` Cycle on which the Meter(s) is(are) read at a Service Point.

Field	Primary Key	Required	Type	Description
is_ami_opt_out			boolean	Indicates if the physical meter(s) at the service point have been switched out for manual read meters.
is_safety_disconnect			boolean	Indicates if the Service Point has been disconnected for safety reasons.
service_classification			string	*Allowed values*: `primary`, `secondary`, `substation`, `transmission` Indicates service voltage categorization of a service point along the electrical delivery network. The Utility typically categorizes these as a determinant of rate tariff options by voltage as a secondary, primary, substation or transmission service. `primary` - Refers to a service point prior to a secondary service transformer and delivers voltagestypically ranging from 4kV to 35kV, typically to commercial and industrial customers. `secondary` - Refers to a service point that typically delivers voltages of 120V or 240V in the US,typically to residential customers. Also known as utilization, supply, or mains voltage.Voltages vary by country. `substation` - Refers to a service point which typically delivers voltages at substation levels ranging from26 kV to 69 kV. `transmission` - Refers to a service point which typically delivers voltages at transmission levels, rangingfrom 33 kV to 765 kV.
load_classification_code			string	Unique external code representing the associated Load Classification, which is used to groupcustomers with homogeneous load patterns and usage characteristics.
driving_potential_value			integer	The integer value of the `driving_potential_units` for the commodity type of the Service Point.

Field	Primary Key	Required	Type	Description
driving_potential_units			string	*Allowed values*: `bar`, `barg`, `m`, `mbar`, `mbarg`, `pa`, `psi`, `psig`, `V`, `wc` The units of the driving_potential_value, based on the `commodity_type`.
bill_usage_cycle_code			string	*References*: `BillUsageCycle.bill_usage_cycle_code` Cycle on which the Service Point(s) is(are) billed.
start_datetime			string	*Format*: `date-time` Date and time the record goes into effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'*. **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
end_datetime			string	*Format*: `date-time` Date and time the record is no longer in effect. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'*. **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)*

Field	Primary Key	Required	Type	Description
				2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)
update_datetime	PKOT	☑	**string**	*Format*: `date-time` Date and time that the record was last modified. A full date and time in local time (time at the physical location of energy consumption) with UTC offset, following convention *'YYYY-MM-DDThh:mm:ss±hh:mm'.* **Time will be defaulted to midnight UTC on the start of the day specified if timestamp and UTC offset are not provided.** Examples: *2021-01-03T10:00:00-05:00 (10am New York City local standard time)* *2021-05-10T00:00:00-04:00 (midnight New York City local daylight time)*
is_deleted		☐	boolean	Indicates if the record is flagged for deletion from the Utility.