

# IoT Workshop on AT&T M2X Data Service APIs



Connect Your M2M or IoT device  
to the AT&T M2X Data Service

# M2X



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Product Development Engineer

AT&T



# AT&T M2X Data Service

## Overview of the AT&T M2X Data Service

*m2x.att.com*

### Labs

- Create account
- Exercise 1 - Creating and Using a Data Source Blueprint
- Exercise 2 - mbed and M2X
- Exercise 3 - Add triggers and notifications
- (optional) Exercise 4 - Server application



## The Connected Device Ecosystem



Today: 10 Billion devices

50 Billion

2020\*

\*<http://newsroom.cisco.com/feature-content?type=webcontent&articleId=1208342>



# AT&T M2X Data Service



Cloud-based fully managed data storage  
service for network connected  
machine-to-machine (M2M) devices.



# AT&T M2X Data Service



## Developer Portal

Manage all of your devices and data from the M2X Developer Portal — from prototype to product launch.



## Flexible, Powerful, Future Proof API

The AT&T M2X service API works with all current technologies and is flexible enough to support new emerging technologies.

[View the AT&T M2X API Documentation.](#)



## Event Management & Notification

Define and manage conditions for Data Streams. When a condition is satisfied, such as a sensor exceeding a temperature threshold, a Trigger monitoring a stream in realtime can create an Event which is logged in the Data Feed.

The screenshot shows the AT&T M2X Developer Portal interface. At the top, there's a navigation bar with the M2X logo, links for SERVICES, ABOUT, and PRICING, and a DEVELOP dropdown menu. Below this is a secondary navigation bar with icons and labels for BLUEPRINTS, LAUNCHED, and ACCOUNT. The main content area is titled 'Data Source Blueprints' and includes a sub-header 'Each Data Source Blueprint is associated with a single prototype data source.' and a 'Create Data Source Blueprint' button. Below this, there are two data source blueprint cards: 'Minecraft Pi' and 'Room Air Monitor'. Each card displays its name, a brief description, and its status (Enabled) and last update time. A third card with a plus sign and the text 'CREATE DATA SOURCE BLUEPRINT' is also visible.

Blueprint Name	Description	Status	Updated
Minecraft Pi	Player location in Minecraft.	Enabled	10/23/2013 16:11 UTC
Room Air Monitor	Each room in the data center is monitored using a device that sends room temperature, humidity, temperature, air handler measurements as well as heating and cooling set points.	Enabled	10/24/2013 17:02 UTC



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### Data Source >

- › Authentication
- › List Blueprints
- › Create Blueprint
- › View Blueprint Details
- › Update Blueprint Details
- › Delete Blueprint
- › List Batches
- › Create Batch
- › View Batch Details
- › Update Batch Details
- › List Data Sources from a Batch
- › Add Data Source to an existing Batch
- › Delete Batch
- › List Data Sources
- › Create Data Source
- › View Data Source Details
- › Update Data Source Details
- › Delete Data Source

### Feed >

- › Authentication
- › List/Search Feeds
- › View Feed Details
- › Read Datasource Location
- › Update Datasource Location
- › List Data Streams
- › Create/Update Data Stream
- › View Data Stream
- › List Data Stream Values
- › Post Data Stream Values
- › Delete Data Stream
- › View Request Log

### Keys >

- › Authentication
- › List Keys
- › Create Key
- › View Key Details
- › Update Key
- › Regenerate Key
- › Delete Key



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```
curl -i -X POST https://api-m2x.att.com/v1/feeds/08b7b8aa6d...b0c011f532cd
-H "X-M2X-KEY: 7998d98485c...1elfdc2bee"
-H "Content-Type: application/json"
-d '{ "values": {
  "temperature": [
    { "at": "2013-12-01T12:00:00Z", "value": "15" },
    { "at": "2013-12-02T12:00:00Z", "value": "20" },
    { "at": "2013-12-03T12:00:00Z", "value": "25" } ],
  "humidity": [
    { "at": "2013-12-01T12:00:00Z", "value": "80" },
    { "at": "2013-12-02T12:00:00Z", "value": "85" },
    { "at": "2013-12-03T12:00:00Z", "value": "80" } ] } }'
```



## Event Management & Notification

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# AT&T M2X Data Service



## Developer Portal

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## Flexible, Powerful, Future Proof API

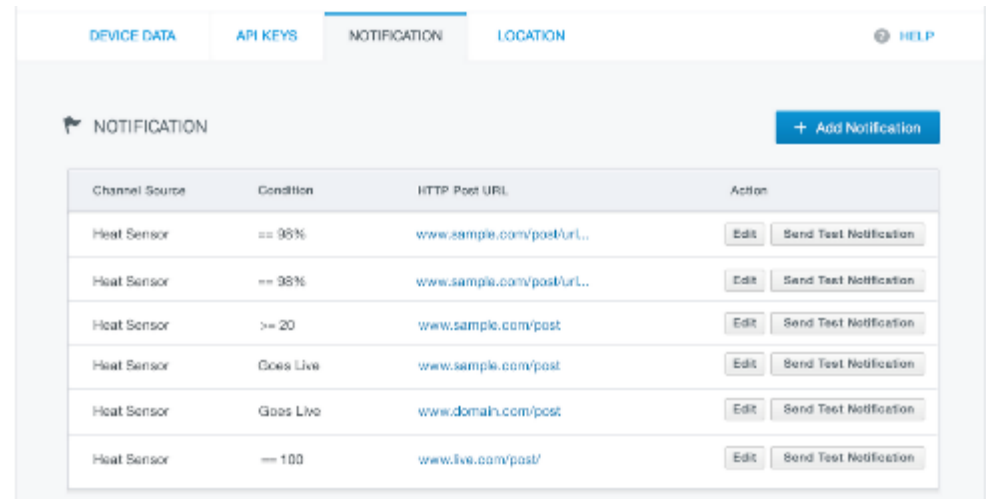
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## Event Management & Notification

Define and manage conditions for Data Streams. When a condition is satisfied, such as a sensor exceeding a temperature threshold, a Trigger monitoring a stream in realtime can create an Event which is logged in the Data Feed.



The screenshot shows the 'NOTIFICATION' tab in the AT&T M2X Developer Portal. It features a table with columns: Channel Source, Condition, HTTP Post URL, and Action. There are six rows of notifications, each with 'Edit' and 'Send Test Notification' buttons. A '+ Add Notification' button is located at the top right of the table.

Channel Source	Condition	HTTP Post URL	Action
Heat Sensor	== 98%	www.sample.com/post/url..	<a href="#">Edit</a> <a href="#">Send Test Notification</a>
Heat Sensor	== 98%	www.sample.com/post/url..	<a href="#">Edit</a> <a href="#">Send Test Notification</a>
Heat Sensor	>= 20	www.sample.com/post	<a href="#">Edit</a> <a href="#">Send Test Notification</a>
Heat Sensor	Goes Live	www.sample.com/post	<a href="#">Edit</a> <a href="#">Send Test Notification</a>
Heat Sensor	Goes Live	www.domain.com/post	<a href="#">Edit</a> <a href="#">Send Test Notification</a>
Heat Sensor	== 100	www.live.com/post/	<a href="#">Edit</a> <a href="#">Send Test Notification</a>



# AT&T M2X Data Service



## Data Security

Industry standard data security helps to safeguard your data. Our granular key based permissioning and key management allows you to restrict access to only your trusted partners.



## Store and Distribute Your Data

Development and production device data is automatically logged and monitored, and flows into Data Streams categorized by data type (ie. temperature, humidity). Each device, or Data Source, is identified by an API Master Key.



## Real-time Analytics

Extract real-time data from your connected devices to enable your business to make important decisions quickly.

### Edit Feed Key

Feed Key Label

ACME Building Management

Permissions

☒ GET ☐ POST ☐ PUT ☐ DELETE

Stream

(All)

Expiry Date

☒ Dec 31 2013 at 23 59

Time is specified in GMT

Learn more about Feed Keys

Cancel

Save Key



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## Real-time Analytics

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The screenshot shows the 'API KEYS' tab in the AT&T M2X interface. It features a table with columns for API Label, API Key, Stream, and Action. There are three entries: 'Primary Feed Key', 'ACME Building Management', and 'Joe's Security'. Each entry has a 'Regenerate' button, and the last two have 'Edit' and 'Delete' buttons. A '+ Add API Key' button is in the top right. The interface includes tabs for 'DATA SOURCE DATA', 'API KEYS', 'TRIGGERS', and 'LOCATION', along with a 'HELP' icon.

API Label	API Key	Stream	Action
Primary Feed Key	19495c9c701882b0c2f85cc8f7e35d30	All	Regenerate
ACME Building Management	9c92517f94d4ff6352782ba158cac5d	All	Edit Regenerate Delete
Joe's Security	f8320d22a786d8fdbc297f47882f7cd	occupLed	Edit Regenerate Delete



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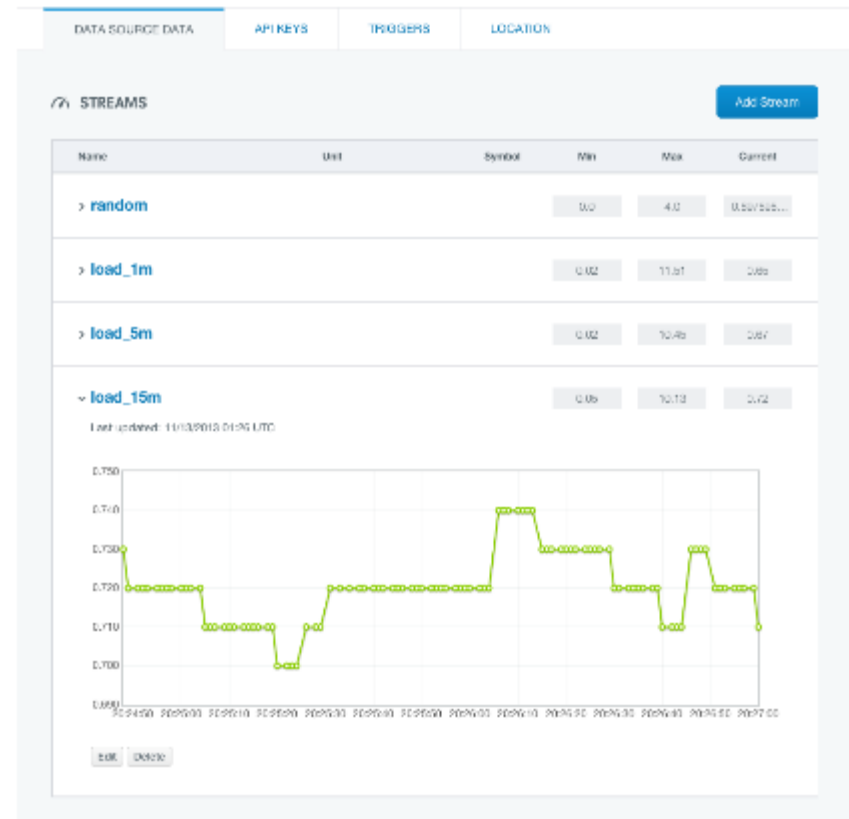
## Store and Distribute Your Data

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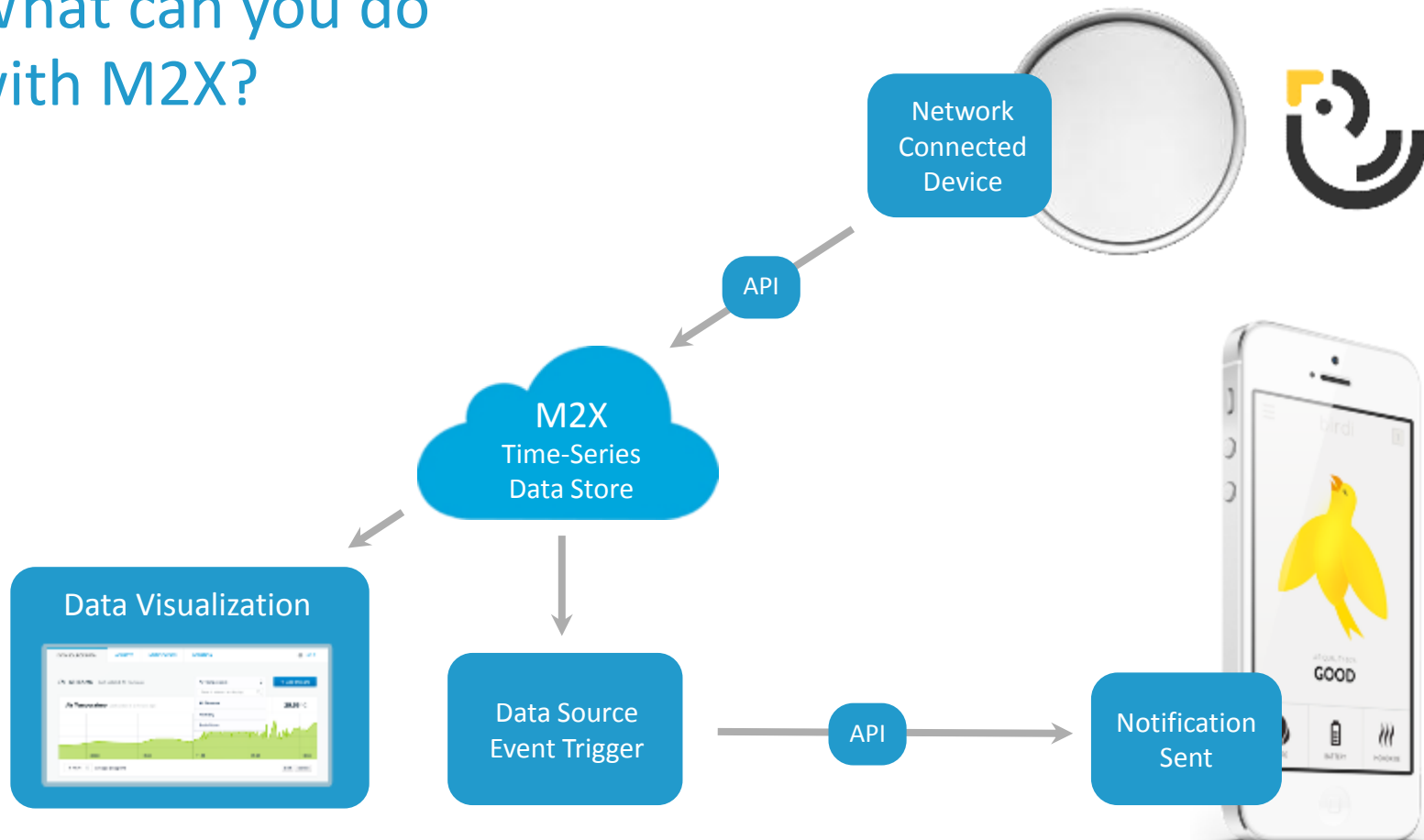
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# AT&T M2X Data Service

## What can you do with M2X?



# AT&T M2X Data Service

## Core Terms & Concepts

Blueprints

Data Sources

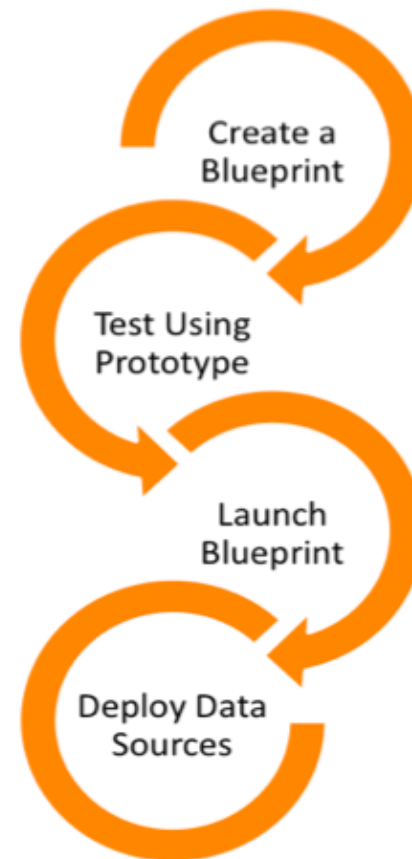
Streams

Triggers

Batches

Master API Key

Feed API Key



# AT&T M2X Data Service

M2X works with any IP capable device!

Client Libraries:



iOS



mbed

Microsoft  
.net



# AT&T M2X Data Service

Online access to tutorials, API documentation and community support forums ensure you have access to the information you need to develop your product.

**Signup:**

*[m2x.att.com/signup](https://m2x.att.com/signup)*

**Get Started:**

*[m2x.att.com/developer/get-started](https://m2x.att.com/developer/get-started)*

**M2X GitHub Repos**

*[github.com/attm2x](https://github.com/attm2x)*

**API Documentation**

*[m2x.att.com/developer/documentation/overview](https://m2x.att.com/developer/documentation/overview)*

**AT&T Developer Program**

*[developer.att.com](https://developer.att.com)*

