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A Software Platform for Digital Enterprise Transformation

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Elastic Cloud Computing

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Big Data

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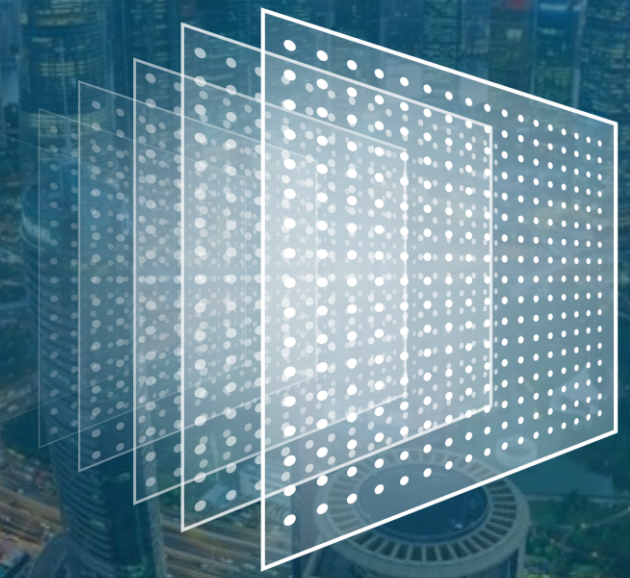
AI / Machine Learning



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Social Human-Computer Interaction

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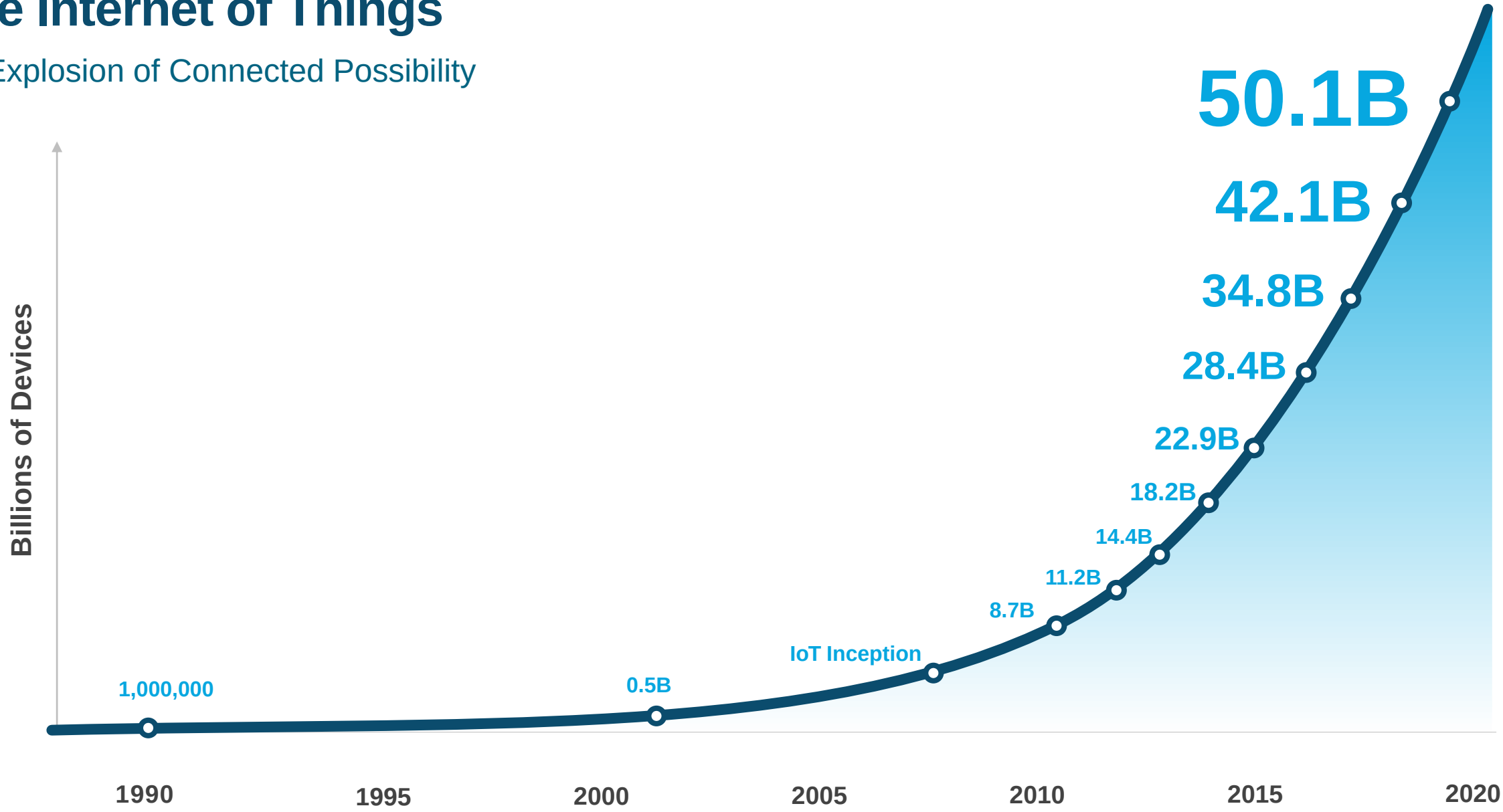
The Internet of Things

An Explosion of Connected Possibility



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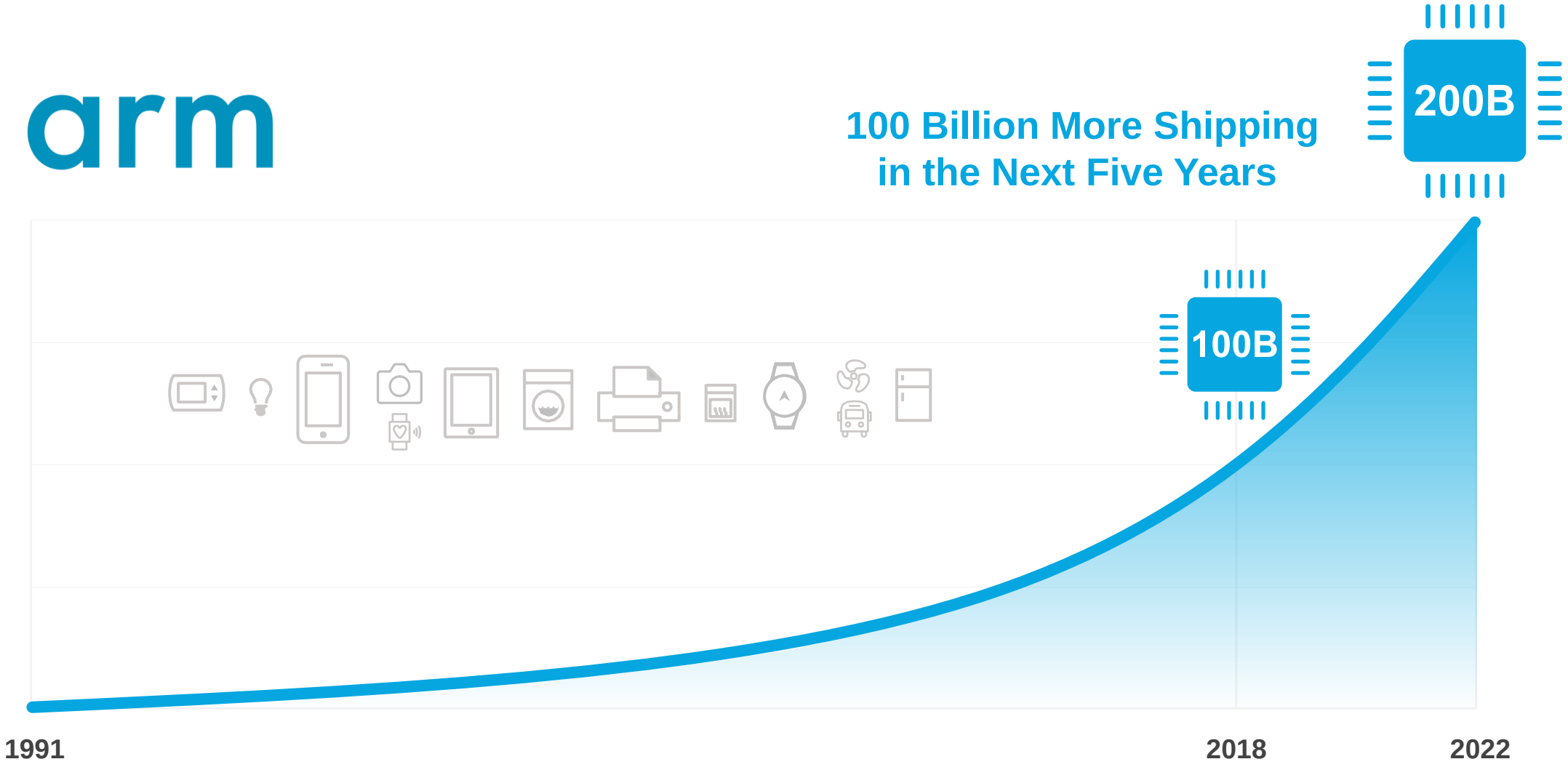
100 Billion ARM Chips Shipped

arm

100 Billion More Shipping in the Next Five Years



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C3 IoT

AI

Future Factory

Production Schedule

Autonomous Vehicles

Route Optimization

Inventory Optimization

Supply Chain Optimization

Demand Forecasting

Predictive Maintenance

AI Augmented Intelligence

Precision Health

Order to Promise

Yield Optimization

Anti-Money Laundering

IoT

Banking

Hospitality

Automotive

Smart Cities

Financial Services

Utilities

Healthcare

Aerospace

Retail

Travel & Transportation

Oil & Gas

Government

Defense

Entertainment

Telecommunications

IoT

The World's Leading Provider of Big Data, IoT, and AI Applications

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C3 IoT is…

- **A Platform as a Service**
- **A Data Integration Platform**
- **A Rapid Application Development Platform**
- **A Massively Scalable Distributed Processing Platform**
- **Low Risk - Tried - Tested - Proven**

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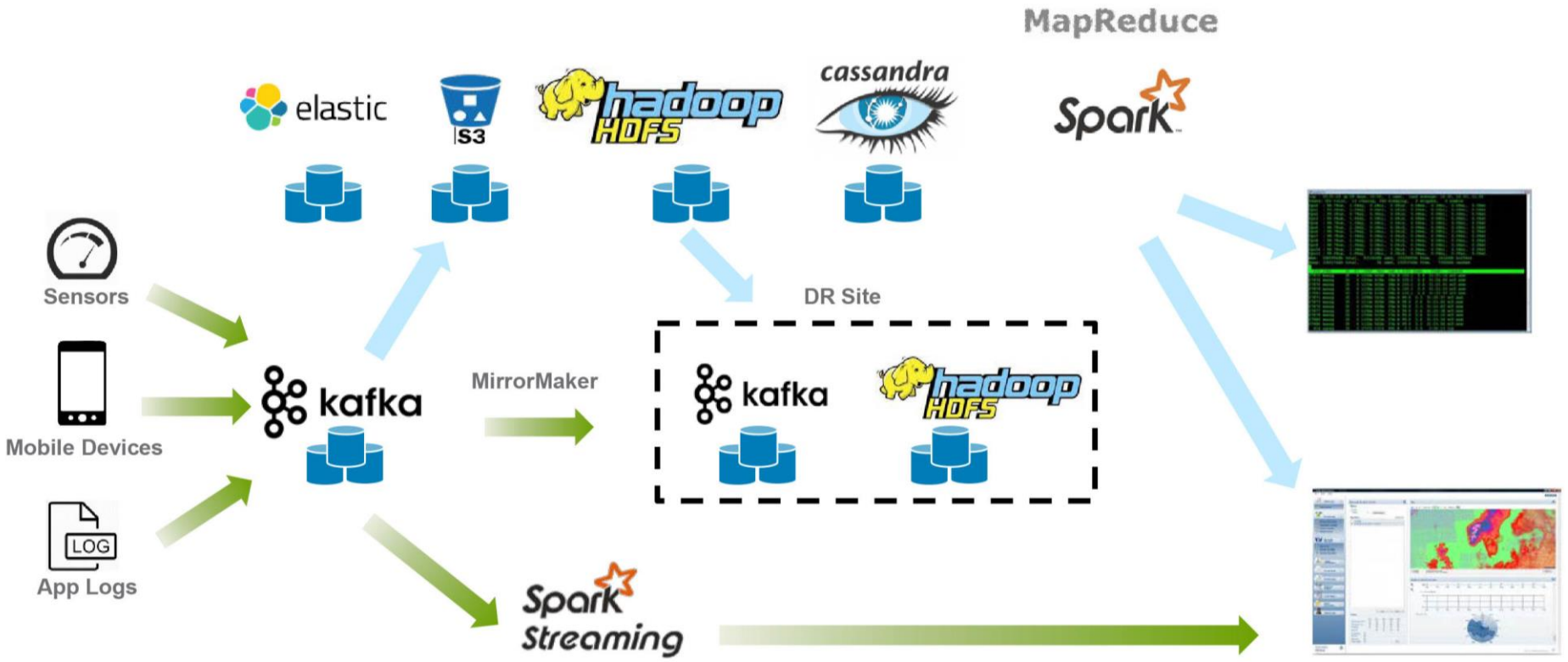
C3 IoT is NOT…an "Accidental" Hadoop Architecture



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C3 IoT is NOT…

- An “Accidental” Open Source Hadoop Experiment
- A Data Visualization Tool
- A Closed “Black Box” Environment
- A Replacement for Installed Enterprise Systems

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C3 IoT is…

- **9 Years of Software Engineering**
- **A $300 Million Software Investment**
- **Over 1 Million Lines of Java Code**
- **An Open, Extensible Software Platform**
- **Able to Leverage Any and All Open Source Solutions**

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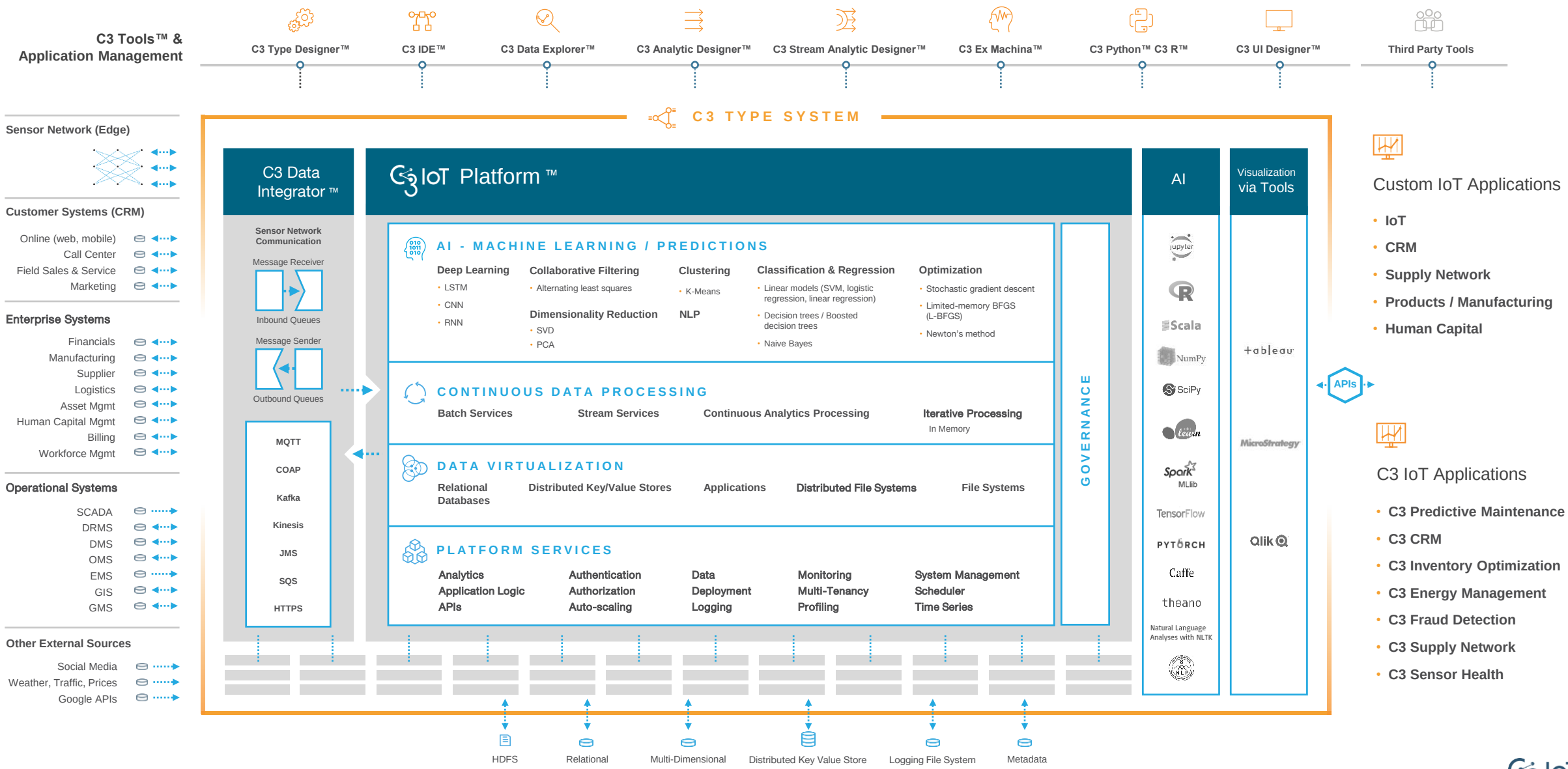
C3 IoT Platform for Digital Transformation



Custom IoT Applications

- IoT
- CRM
- Supply Network
- Products / Manufacturing
- Human Capital

C3 IoT Applications

- C3 Predictive Maintenance
- C3 CRM
- C3 Inventory Optimization
- C3 Energy Management
- C3 Fraud Detection
- C3 Supply Network
- C3 Sensor Health

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Leveraged Technologies

- **Elastic Cloud Computing**
- **Big Data**
- **AI**
- **Machine Learning**
- **NLP**
- **Deep Learning**
- **Internet of Things – IoT**

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C3 IoT Platform Functions

- **Data Integration**
- **Data Processing**
- **Descriptive Analytics**
- **Predictive Analytics**
- **Prescriptive Analytics**
- **Closed-loop Machine-to Machine Control**

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C3 IoT Platform

- **Scalable**
- **Open**
- **Secure**
- **Low Risk**

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C3 IoT is…

- **A Model-Driven AI Architecture**
- **An Application Development Platform**
- **Application Operating Platform**
- **Machine Learning Platform**
- **A Type System**

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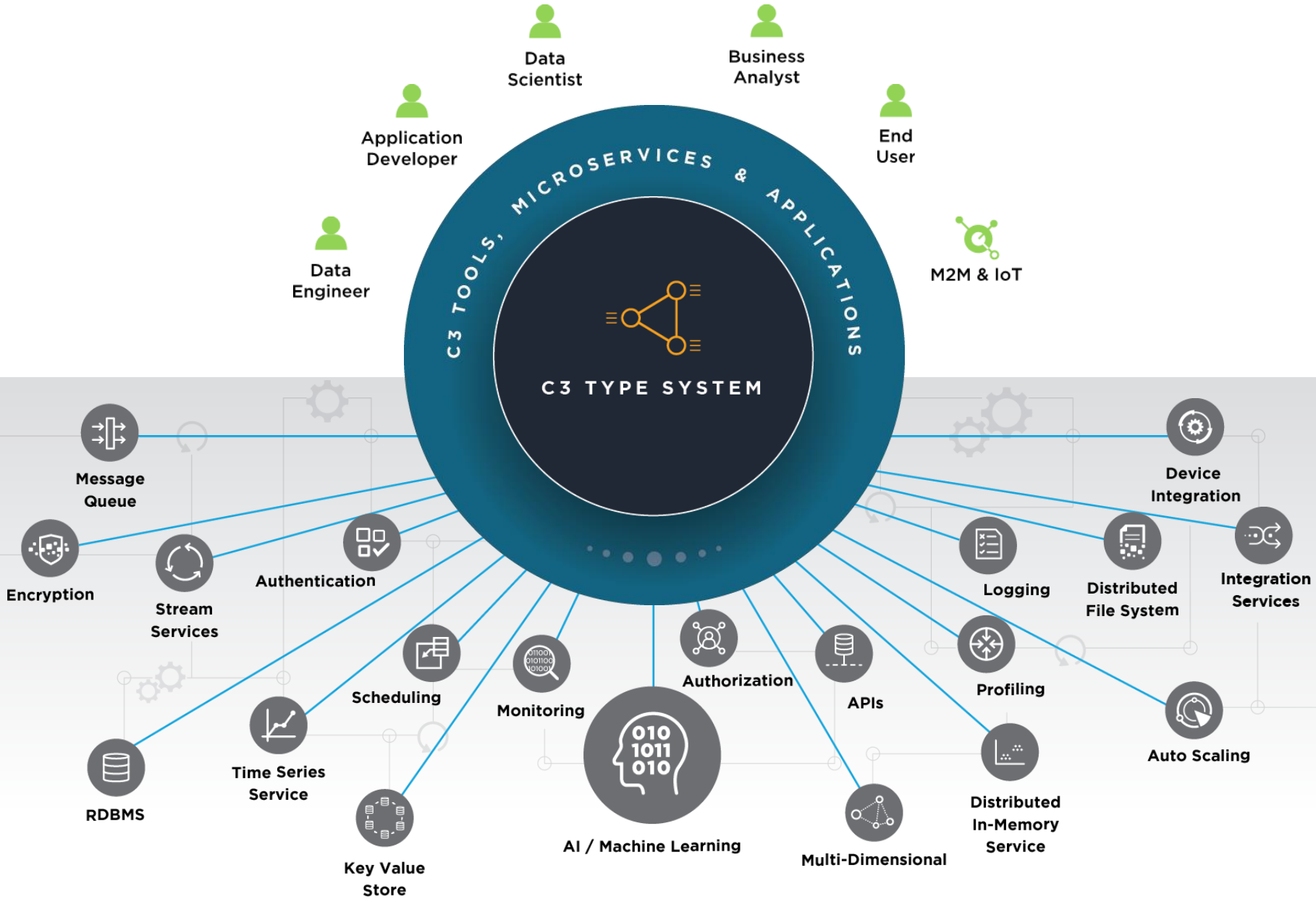

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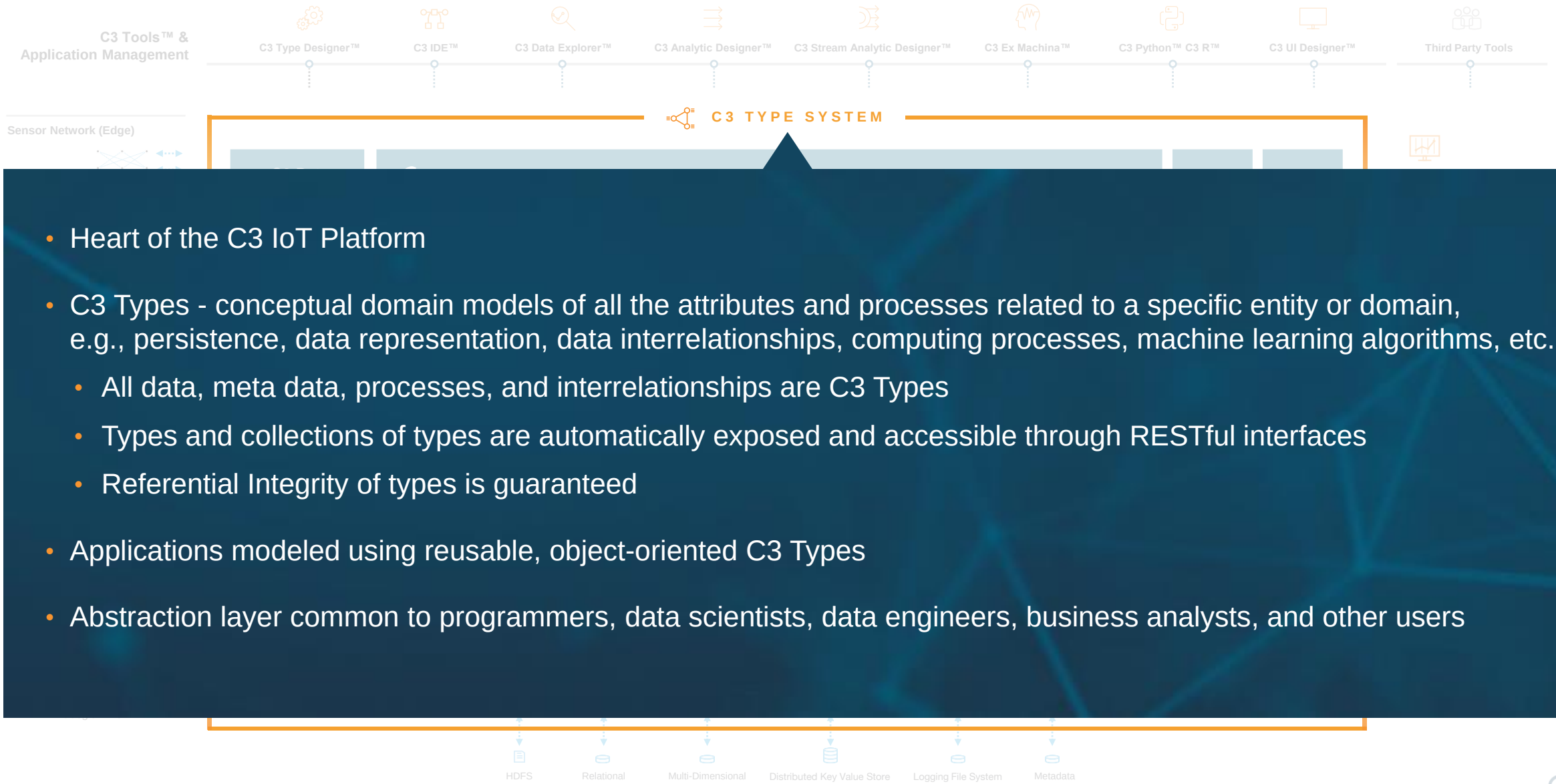
C3 Type System – Model-Driven AI Architecture



- Heart of the C3 IoT Platform
- C3 Types - conceptual domain models of all the attributes and processes related to a specific entity or domain, e.g., persistence, data representation, data interrelationships, computing processes, machine learning algorithms, etc.
  - All data, meta data, processes, and interrelationships are C3 Types
  - Types and collections of types are automatically exposed and accessible through RESTful interfaces
  - Referential Integrity of types is guaranteed
- Applications modeled using reusable, object-oriented C3 Types
- Abstraction layer common to programmers, data scientists, data engineers, business analysts, and other users

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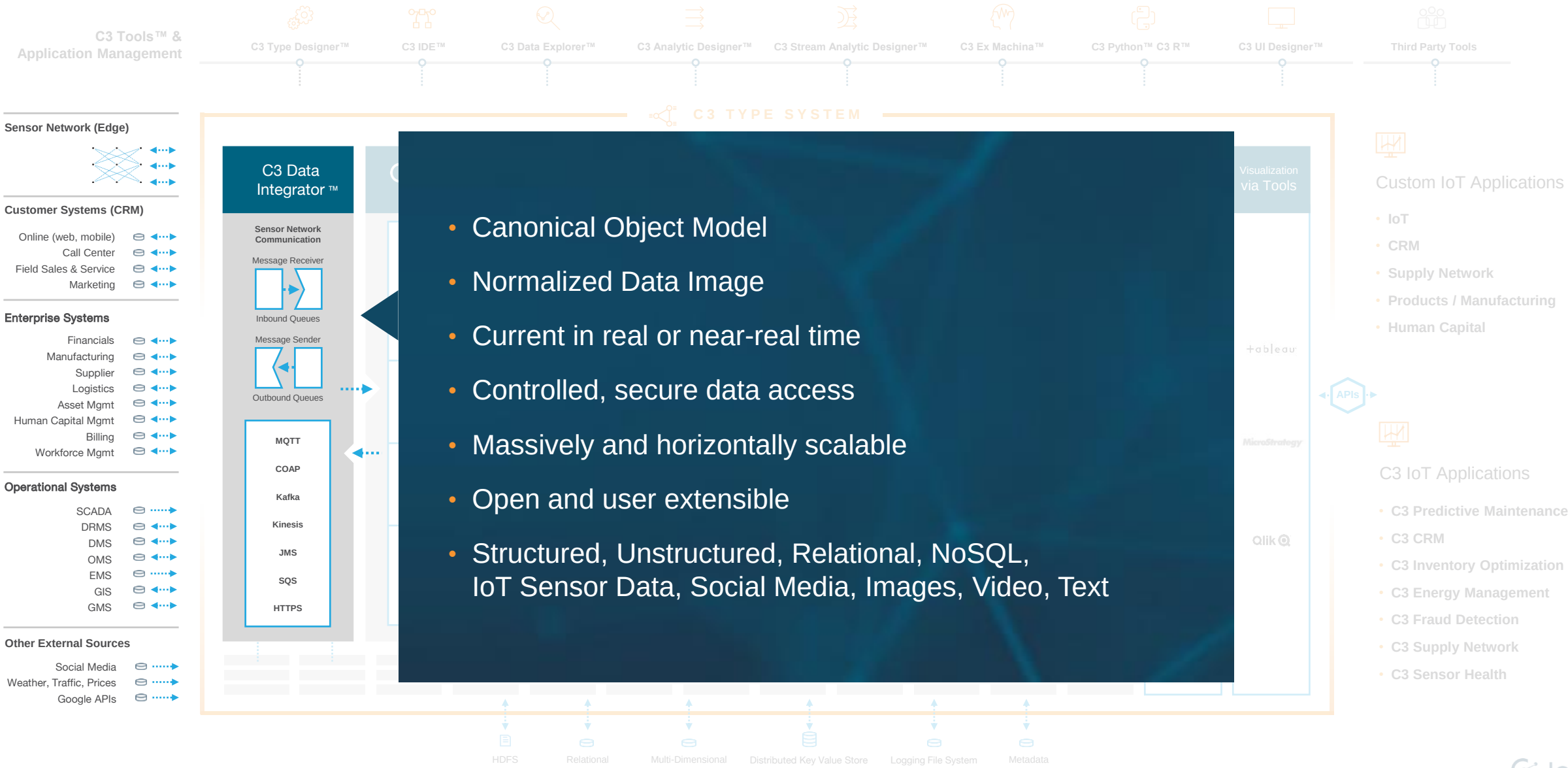
C3 Data Integrator



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C3 IoT Persistence

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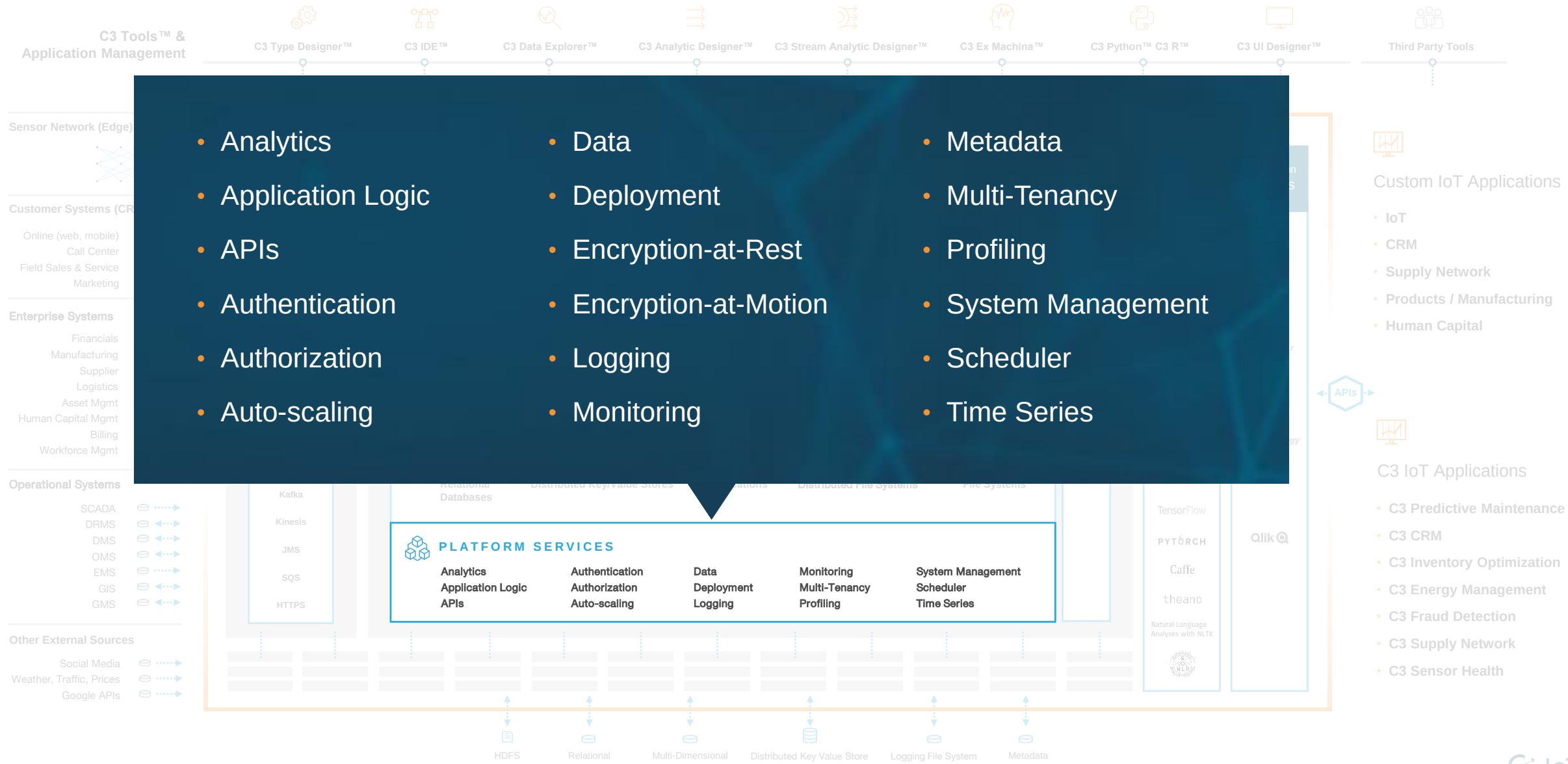
C3 IoT Platform Services



- Analytics
- Application Logic
- APIs
- Authentication
- Authorization
- Auto-scaling
- Data
- Deployment
- Encryption-at-Rest
- Encryption-at-Motion
- Logging
- Monitoring
- Metadata
- Multi-Tenancy
- Profiling
- System Management
- Scheduler
- Time Series

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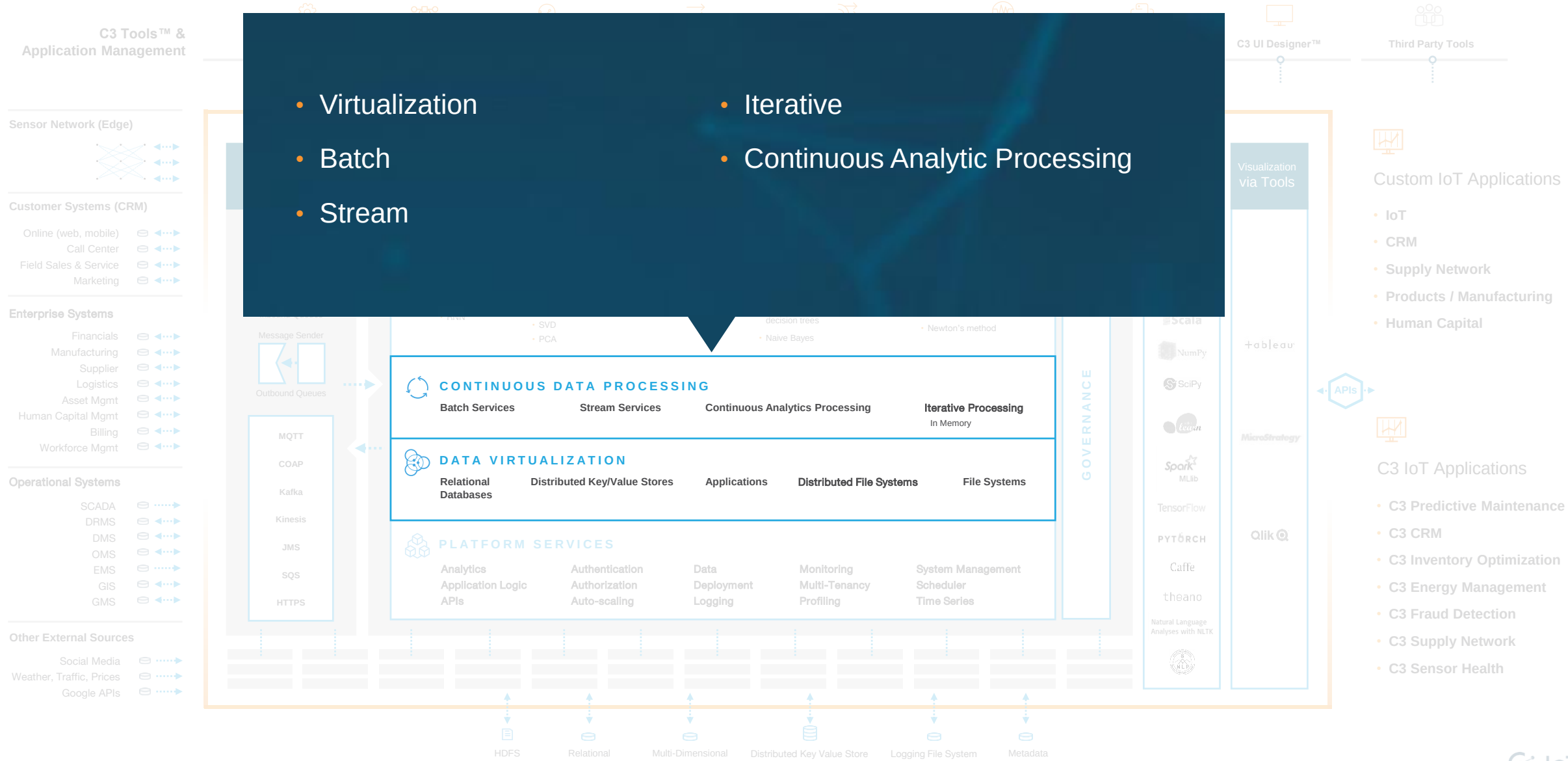
C3 Data Processing



- Virtualization
- Batch
- Stream
- Iterative
- Continuous Analytic Processing

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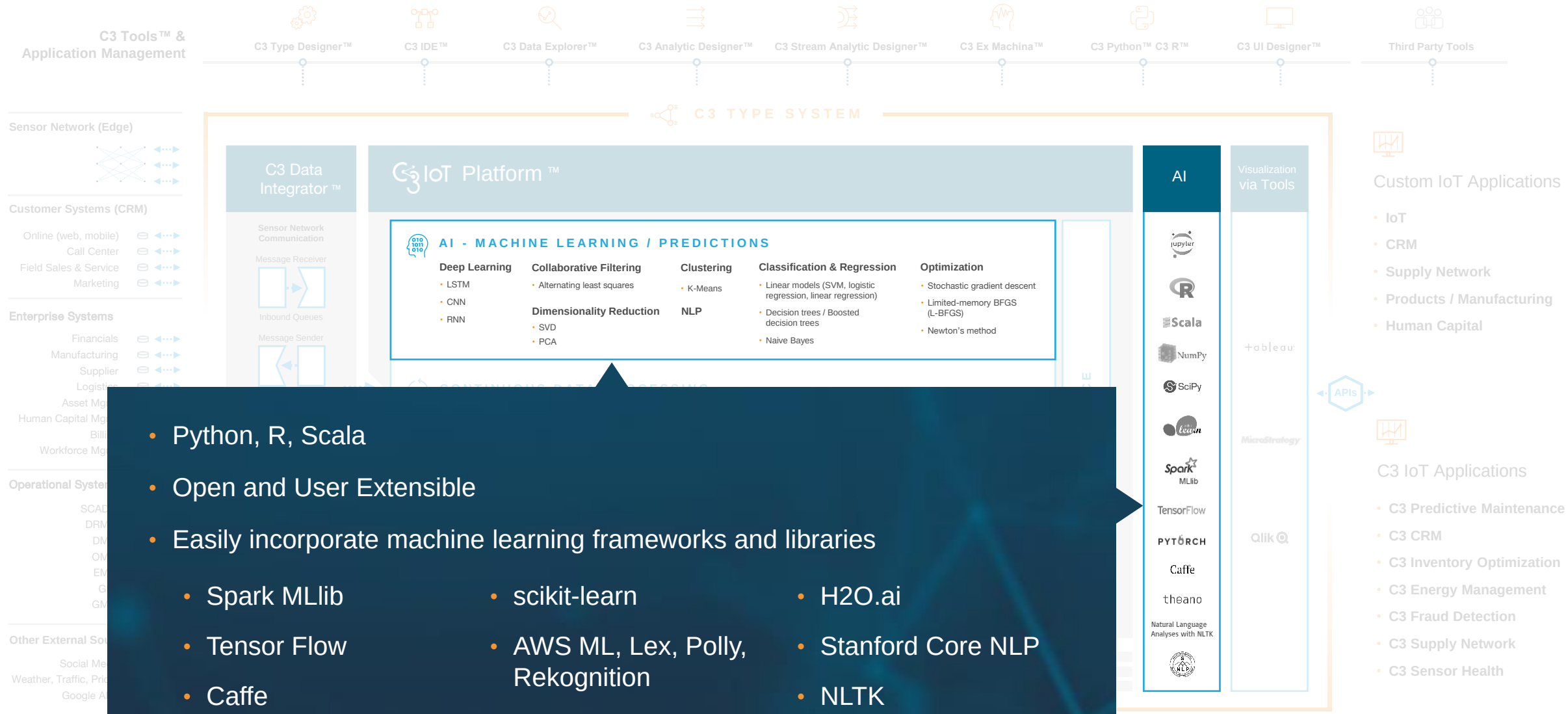
AI Machine Learning & Predictions



- Python, R, Scala
- Open and User Extensible
- Easily incorporate machine learning frameworks and libraries
  - Spark MLlib
  - Tensor Flow
  - Caffe
  - PyTorch
  - scikit-learn
  - AWS ML, Lex, Polly, Rekognition
  - Azure ML
  - H2O.ai
  - Stanford Core NLP
  - NLTK
  - Fully User Extensible

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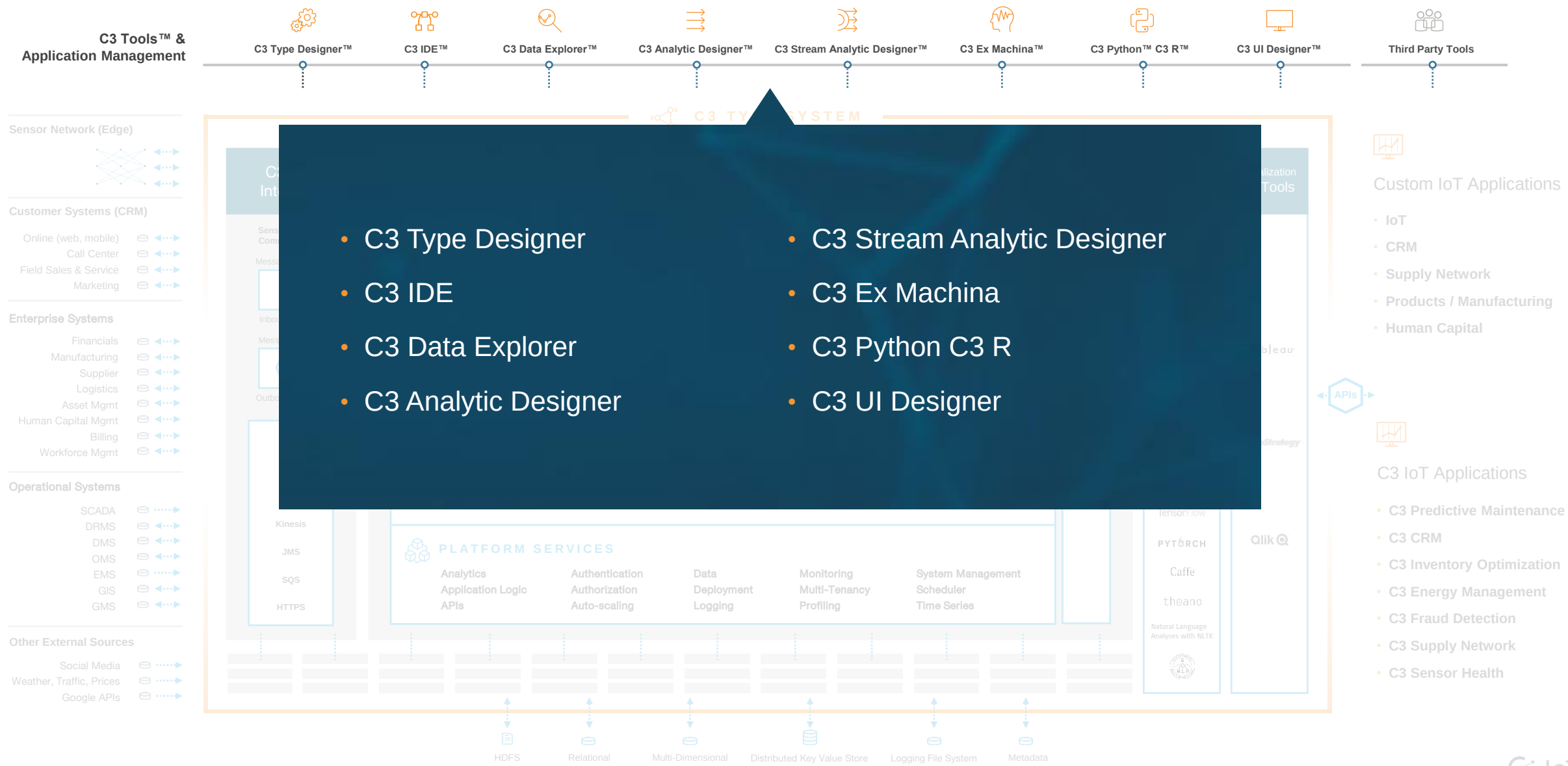
C3 IoT Tools



- C3 Type Designer
- C3 IDE
- C3 Data Explorer
- C3 Analytic Designer
- C3 Stream Analytic Designer
- C3 Ex Machina
- C3 Python C3 R
- C3 UI Designer

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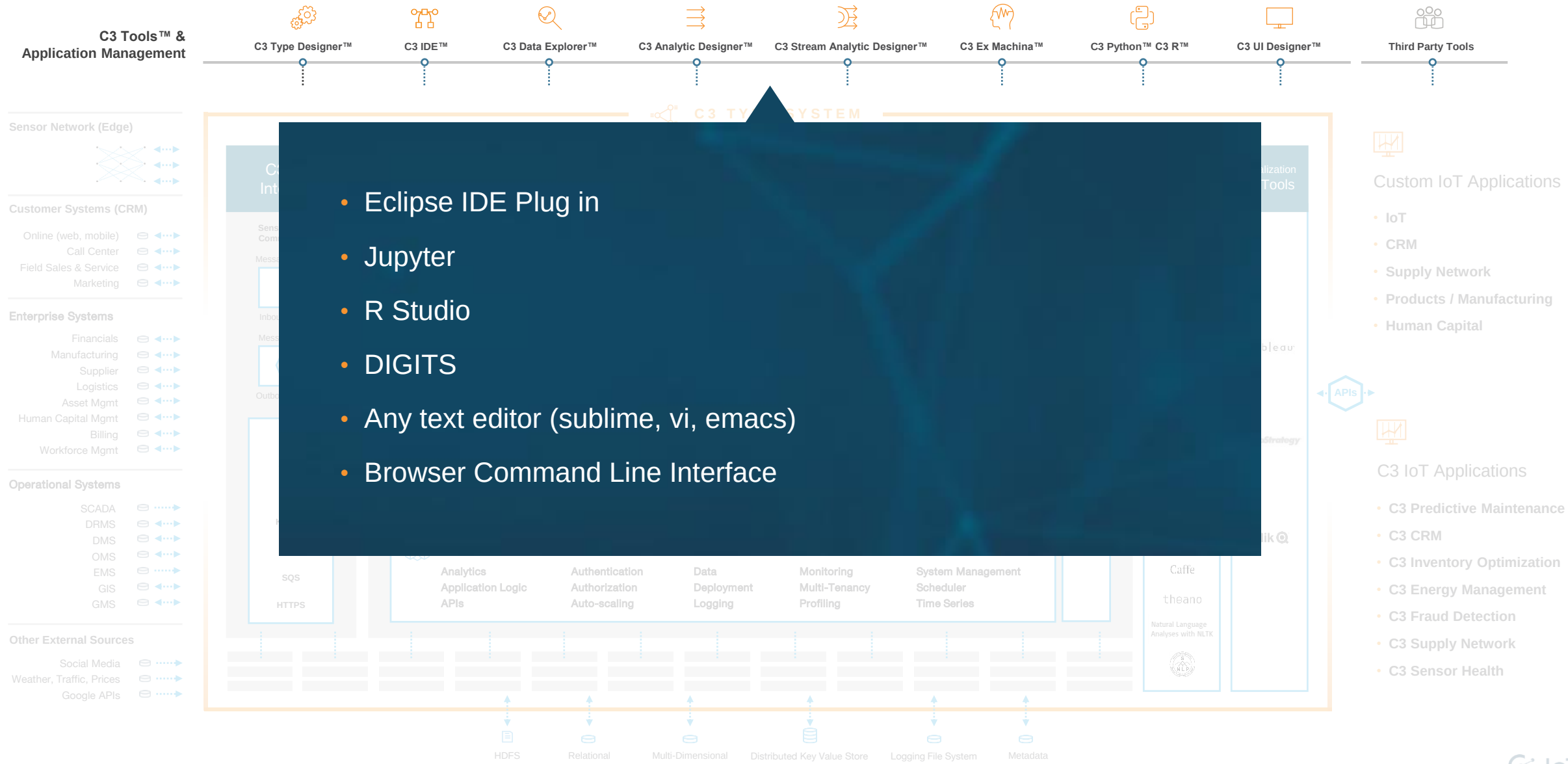
C3 IoT Application Programmer Tools Integrations



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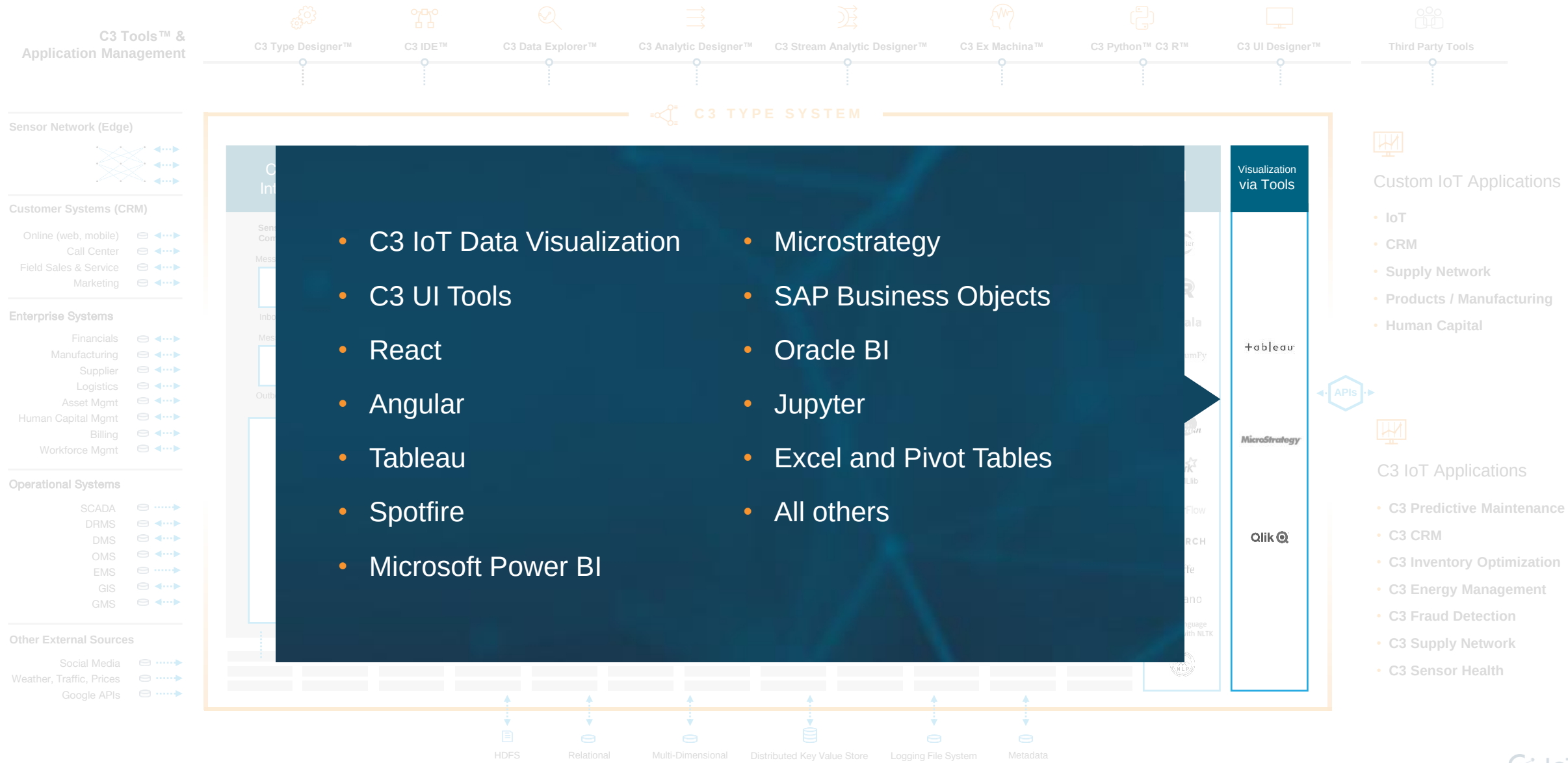
C3 Data Visualization



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C3 IoT Industry Applications

	Utilities	Oil & Gas / Mining	Industrial / Manufacturing	Consumer Packaged Goods	Aerospace & Defense	Financial Services	Healthcare	Retail	Telecom	Public Sector / Cities
C3 CRM™	●	●	●	●	●	●	●	●	●	●
C3 Predictive Maintenance™	●	●	●	●	●	●	●	●	●	●
C3 Energy Management™	●	●	●	●	●	●	●	●	●	●
C3 Sensor Health™	●	●	●	●	●	●	●	●	●	●
C3 Fraud Detection™	●	●	●	●	●	●	●	●	●	●
C3 Supply Network™	●	●	●	●	●	●	●	●	●	●
C3 Inventory Optimization™	●	●	●	●	●	●	●	●	●	●

C3 IoT Platform™

Sensor Network (edge)	External (social media, weather, traffic, prices)	Product Design	Engineering	Manufacturing	Supply Chain	Billing	Financials	HR	Industry Specific

DATA SOURCES ACROSS VALUE CHAIN

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C3 IoT Platform for the Digital Enterprise

- **Big Data**
- **Predictive Analytics**
- **IoT**
- **Time to Value in Weeks – Not Years**
- **Increases productivity by 10x – 100x**

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C3 IoT Select Customers

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AI

Machine Learning

Artificial Intelligence

Big Data

Data Lake

Natural Language Processing

Deep Learning

Hadoop

AWS

Digital Transformation

Internet of Things

Multi-cloud

Cloud Computing

NLP

Data Science

Industry 4.0

Elastic Cloud Compute

IoT

Azure

IoT

- Founded in 2009
- World's leading AI & IoT Software Platform for Digital Transformation
- #19 on the Forbes Cloud 100
- $300 million invested in product development
- 300 million devices/sensors covered by C3 IoT contracts
- Glassdoor 2017 Best Place to Work Rating of 4.9/5

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