Sponsors of International i-Power 2019

The Power of Customer Care with IBM Watson

John Taylor, Typex
(Now with added badges!)

iPower, Milton Keynes, June 2019

Abstract

- Adding IBM Watson to your environment can transform your Customer Care. Whether you are looking for a better customer experience, to reduce waiting time, to provide out-of-hours cover, to increase capacity or to save staff costs there is a role for Watson.

- This session follows on (with a recap) from the 'Customer Care with IBM I' session at i-UG Wolverhampton. Download available.

Agenda

- Re-cap: 8 Steps of Customer Interaction
- Artificial Intelligence & Customer Care
- IBM Watson
- IBM Watson Use Cases
- Watson Case Studies & Pricing
- Watson Assistant Live Demo
- Getting Started with IBM Watson
- Summary & Close

Customer Service Re-cap (from i-UG Wolverhampton)

What is Customer Service?

- "Customer service is the provision of service to customers **before, during and after** a purchase. ...

- It includes:
  - Customer support
  - Despatch of customer service
  - Feedback & surveys

What is a Contact Centre?

- First point of contact for inbound calls, and optionally...

- Targeted outbound call operation

- All firms have a 'contact centre' - even if it is not called that - as their primary customer interface. What do you call yours?
  - Helpdesk? Technical Support? Inside Sales? Customer Service? Order Desk? Credit Control? Collections?

- Terminology
  - A 'Call Centre' is for phone calls
  - A 'Contact Centre' may also cover Web chat, email, fax, social media, etc.
  - The members are called 'Agents'

- … but different organisations do it different ways ...

Phone or Not? a) Don't Call Me!

Glasgow City Council > Contact Us

Contact Us

The quickest and most convenient way to contact us is through our website. Use our Save Time Go Online page to report, request or pay for services at a time that's convenient to you 24/7.

How to contact us ⌄

Report, request or pay

- To report an issue, request a service or make a payment use our Save Time Go Online services.
- To make an enquiry regarding Council Tax you can use our Council Tax enquiry form

Make a comment or compliment

- Complete our comment and compliments form.

Quick Search 🔍

Get in touch

Make a comment or compliment ✎

Make a complaint ✎

Related content

Customer Comments, Compliments and Complaints Privacy Statement

Phone or Not? b) Please Call Me!

- Some organisations do want to talk to you.

Why Choose Us?

- **FREE** Breakdown Cover
- **FREE** Gadget & Bag Cover
- **FREE** Claim Assistance
- **UK Based** Staff & Offices
- Friendly and **Experienced** Staff
- Our Panel Features **30+ Leading UK Insurers**

Contact Us

0333 3210 692

admin@bewiser.co.uk

Let us Call You Back >>

(!) **Need to Make a Claim?**

Call **0800 2982820**

Open 24 hours a day

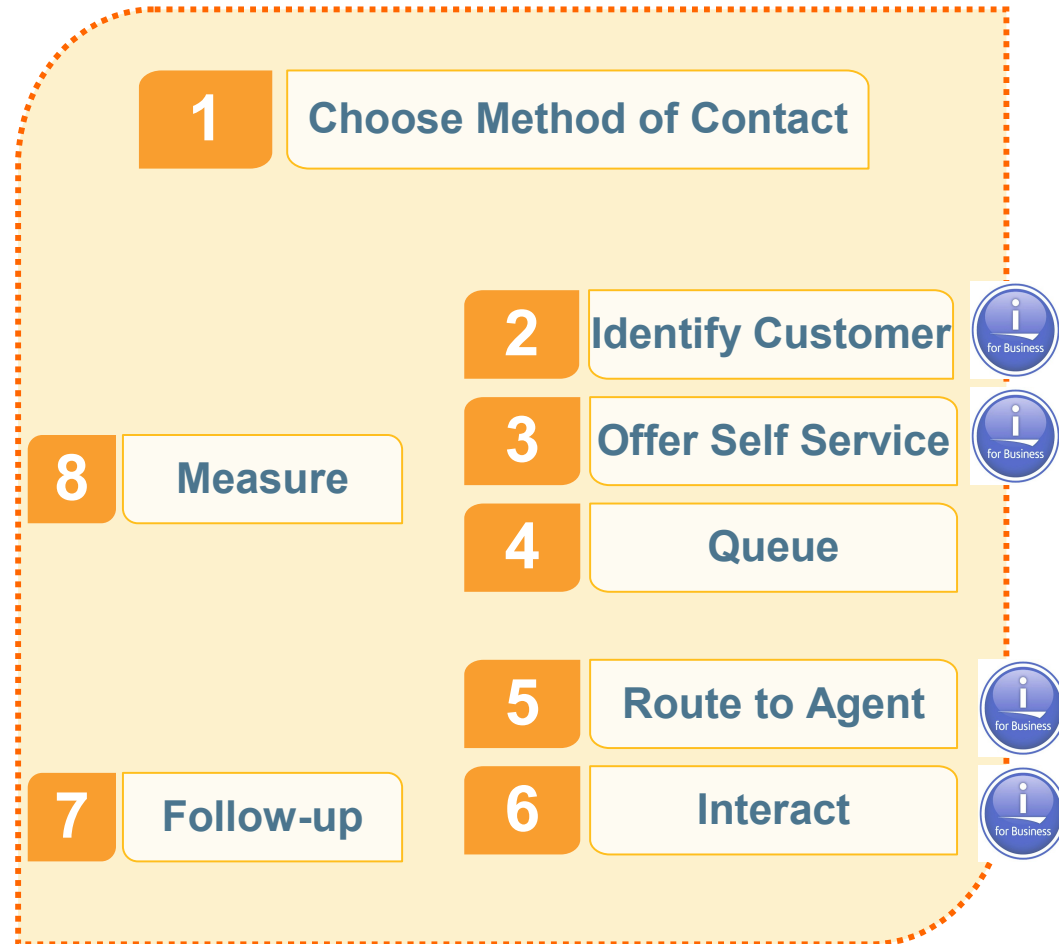# Recap: 8 Steps of Customer Interaction

Deliver service quality
- Fast, effective service
- Defined business rules

Optimise the resources
- Manage productivity
- Identify any problems

Deliver new revenue
- Outbound telemarketing
- Differentiated support
- Recovering lost sales

1 Choose Method of Contact

2 Identify Customer

3 Offer Self Service

4 Queue

5 Route to Agent

6 Interact

7 Follow-up

8 Measure

Typical Contact Centre 'Lite' options

- With most modern phone systems you get (for free):
  - Inbound
  - Voice
  - Overflow
  - Basic functionality
  - Announcements in queue
  - Batch Reports
- and optionally add (for fee):
  - Wallboard
  - Call Recording
  - Enhanced reporting

- A full Contact Centre adds:
  - Outbound & blended
  - Self service
  - Multimedia
  - Web Chat
  - Callbacks
  - Real time information
- Do your discovery thoroughly … department by department. It is not an IT question.
  - Use the discovery form

Artificial Intelligence & Customer Care

Have you used AI?

You Already Know AI

- Amazon Alexa/Google Assistant/Apple Siri/MS Cortana
  - All Virtual Agents
- Amazon Web recommendations
- Air travel, NATS, e.g. strikes, volcanoes
- Traffic management systems
- Medical diagnoses - better than medical panels, e.g. ophthalmology
- So how can we use it in our business?

Virtual Agent Roles in Customer Care

- a) Help Customer (chat bots + ...)
  - Natural Language Processing
  - Interpret Customer Needs
  - Search Knowledge Base
  - Sentiment Detection
    - Pass to live agent if upset
- b) Help Live Agent
  - Agent Assist
    - suggest processes, recommend products
  - Search Knowledge Base
    - less reliance on knowledge retention
  - Continuous Agent Coaching
  - Improve Future Interactions

IBM Watson

What is Watson?

Watson is AI for business

	Watson Business Solutions				**Watson Applications**			
Applications, solutions and services Targeted solutions for enterprise businesses	Compliance Assist	Customer Care	Expert Assist	Voice of the Customer	Watson Supply Chain	Watson Assistant Solutions	Watson Compare and comply	ISV and 3rd party apps
AI – Watson APIs Building blocks for developers	Assistant	Discovery	Text to Speech		Personality Insights	Tone Analyzer	+ Training Tools	
	Visual Recognition	Speech to Text	Nat Language Understanding		Nat Language Classifier	Language Translator	Compare & Comply	
AI Lifecycle Management Tools to prepare data for AI, train and deploy	Watson Knowledge Catalog (Organize and Govern data)		Watson Studio (Build)		Watson Machine Learning (Deploy, Run, Continuous Learning)		Watson Open Scale (Operate Trusted AI)	
	Data Engineer		Data Scientist		App Developer		AI Ops	
Cloud – Infrastructure A highly scalable, security enabled infrastructure	Cloud integration		Micro-services			DevOps Tooling		
	Networking	Compute	Security		Containers	Virtual Servers	Object Storage	…more
		Public		Hybrid			Private	

Watson Assistant

- AI assistant for business (a REST API)
- Manages conversation in natural language.
- "More than a chatbot"
  - Basic chat bots identify key words and select from matching standard answers.
- Search knowledge base
- Ask for clarity
- Supports 13 languages
- Redirect to a human
- Deploy on your Web site, in a mobile app, on the phone, in messaging channels and to customer service tools.
- Runs on any cloud - IBM, Amazon, Google, Microsoft. Integrates with Facebook, Slack and voice at the front end and with syste like Watson Discovery to retrieve information, and with ERP, CRM, PoS to read and write information.

Watson Assistant, contd.

- Developers not required
  - Pre-trained with industry content. Has a visual dialog editor.
- Features to create advanced conversational assistants:
  - Bootstrap - Upload and search human chat logs to add real user utterances to intent user examples. Watson recommends similar sentences based on what's currently in the intent.
  - Search skill - Improve the coverage of your assistant by calling to Watson Discovery from any dialog node.
  - Disambiguation - user select their intention from a list of options
  - Digressions - Use to dynamically answer questions or redirect a user within the context of a business process
  - Intent conflict resolution - flags examples that are too similar and ask you to choose
  - Out the box integrations to service desk apps - Intercom, Zendesk, Salesforce, etc.

Watson Assistant – Key Use Cases

- Customer Care
  - Decrease call centre operations cost, while improving the customer experience and developing new revenue streams

- Employee Productivity
  - Simplify access to common questions and tasks through enterprise channels – often HR related.

- Conversational Commerce
  - Provide guided buying experience for prospective customers to purchase goods and services through the mobile or messaging channel of their choice

Watson Assistant Demo

- Watson Assistant - BankBot
  - Simulates a few banking scenarios
    - make a credit card payment
    - booking an appointment
    - choosing a credit card.
  - Watson understands your entries and responds accordingly
    - https://watson-assistant-demo.ng.bluemix.net/
  - Backup (similar)
    - https://www.bewiser.co.uk/
    - Use chat bot to help you fill in a form for a car insurance quote then a) call or b) chat to a real agent (based on availability). So, no queues. Prequalify for agent.

Watson Discovery

- Documents automatically or manually added to a collection
- Natural language processing with advanced text analytics
- Machine learned relevance for most appropriate answers
- Automatic updates to training as data and usage changes without manually creating new training data
- Application of the knowledge of unique entities and relations in an industry or organisation
- Pre-enriched ready-to-use news collection
- Document Similarity surfaces textually similar documents
- Retrieval from external content for more complex questions
- Enterprise data sources (SharePoint, Salesforce, etc.)
- Smart Document Understanding - extract tables and custom document content via rapid labelling of unstructured data
- 11 languages

PowerAI

- PowerAI
  - Open source framework to train models

- PowerAI Enterprise / Watson Machine Learning Accelerator
  - Job scheduling and monitoring

- PowerAI Vision
  - Tool for training models

- "IBM PowerAI is now officially IBM Watson Machine Learning Community Edition (or IBM WML-CE)

- See David Spurway for details

IBM Watson Use Cases

08:22? Half way through … soon be time for a coffee!
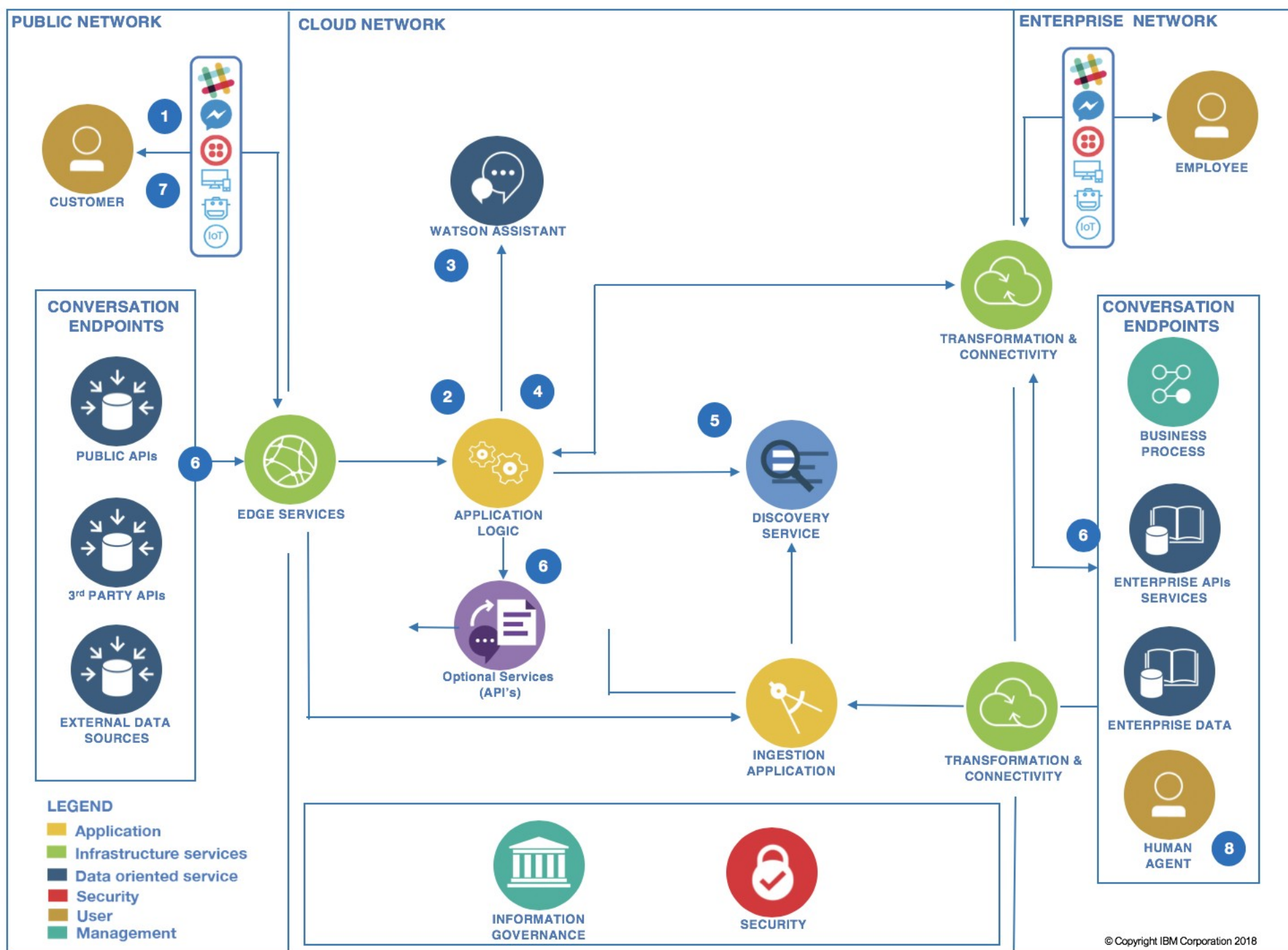
Watson for Customer Care - Approaches

- Either, use a pre-built IBM AI Solution/Use Case
  - Customer Care Virtual Agent
  - Customer Care Voice Agent
  - Customer Care Agent Assist
  - Customer Care Agent Assist for Salesforce
- Or, develop a customised roadmap based on Watson and Cloud
  - or any combination of the above.
- Let's look at each Use Case in turn....

Customer Care Virtual Agent

- Conversational and search capabilities and live agent integration.
- Understands questions in natural language across any type of digital channel.
- Search enables answers to complex questions.
- Components
  - Watson Assistant
    - Common interactions, routing and tasks
  - Watson Discovery
    - complex and broad questions with Disambiguation.
    - provides live agent handover without the loss of context.
  - Optionally
    - CCVA UI
    - Service Manager App
    - Solution Database
    - CRM System
    - Third-party Human Agent Support Platforms

PUBLIC NETWORK

CUSTOMER

CLOUD NETWORK

WATSON ASSISTANT

TRANSFORMATION & CONNECTIVITY

ENTERPRISE NETWORK

EMPLOYEE

CONVERSATION ENDPOINTS

PUBLIC APIs

3rd PARTY APIs

EXTERNAL DATA SOURCES

EDGE SERVICES

APPLICATION LOGIC

Optional Services (API's)

DISCOVERY SERVICE

INGESTION APPLICATION

TRANSFORMATION & CONNECTIVITY

CONVERSATION ENDPOINTS

BUSINESS PROCESS

ENTERPRISE APIs SERVICES

ENTERPRISE DATA

HUMAN AGENT

LEGEND

- Application
- Infrastructure services
- Data oriented service
- Security
- User
- Management

INFORMATION GOVERNANCE

SECURITY

© Copyright IBM Corporation 2018

Customer Care Voice Agent

- Integrate your telephone network to replace or supplement an existing IVR to interact with customers in natural language voice.
  - Offer personalised interactions
  - Seamlessly connect
  - Transfer calls to agents
  - Interact via text messages
  - Switch services mid-call including languages
- Components
  - IBM Voice Agent on IBM Cloud
  - Speech to Text
  - Watson Assistant
  - Text to Speech
  - Optionally, portions of this can be built on IBM Cloud Private via IBM Voice Gateway with Watson.

Customer Care Voice Agent

IBM Voice Agent with Watson

Speech to Text

Watson Assistant

Text to Speech

Watson services

1 Caller asks a question
2 Question audio streamed for conversion
3 Question returned as text
4 Text sent for analysis
5 Response text returned
6 Text sent to be synthesized
7 Synthesized audio response returned
8 Audio response streamed to caller
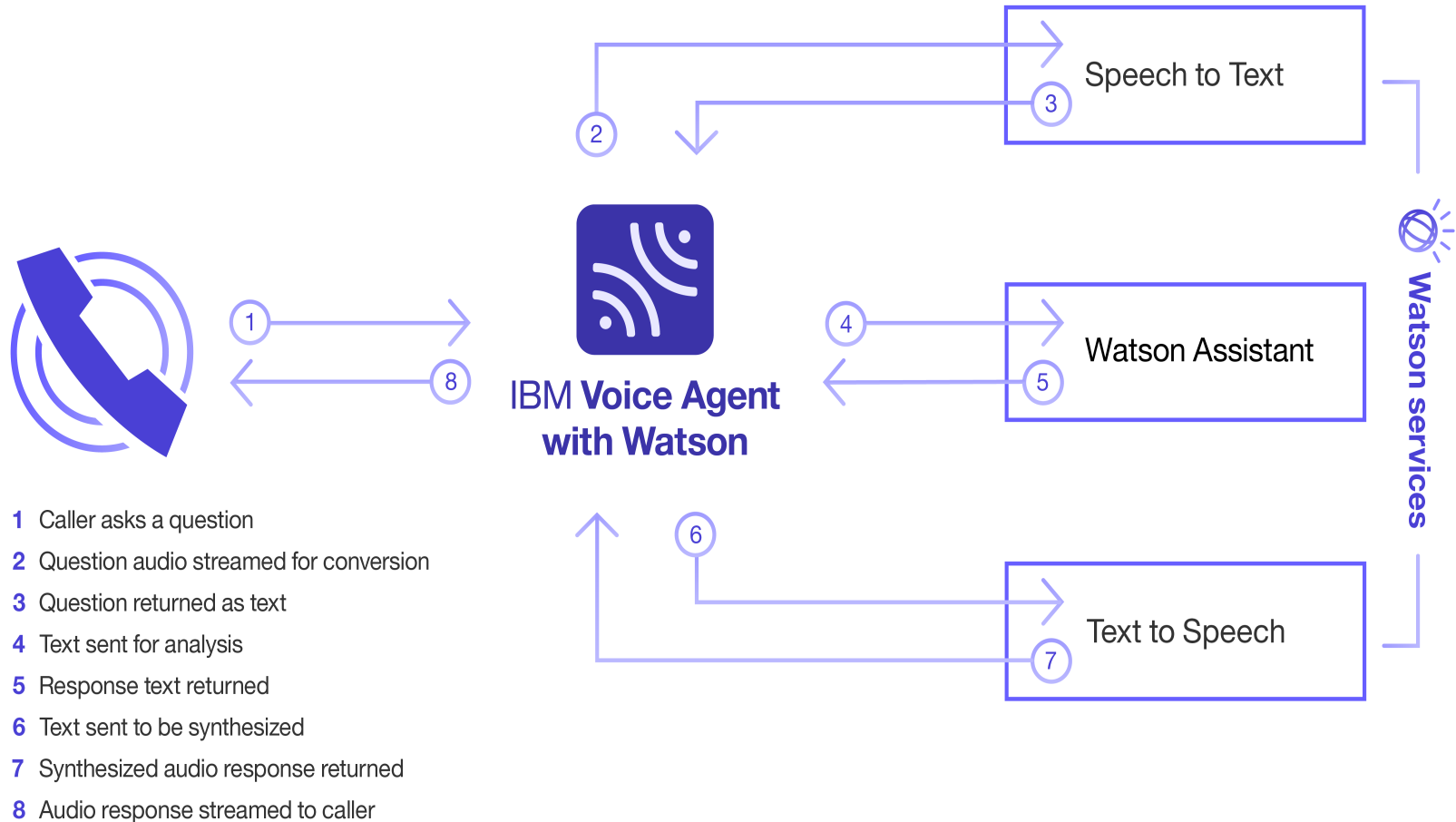
Customer Care Agent Assist

- Helps agents to find the right answers at the right time in the right context
    - improves agent responsiveness and first time resolution.
    - Components
        - Watson Discovery
            - Unify data from diverse sources, enrich unstructured content with advanced text analytics, provide deeper understanding of documents and tables, retrieve answers as passages and documents and use machine learning to serve up the most relevant content in unstructured and structured data.
        - Watson Assistant (optional)
            - Used to manage conversational interactions and FAQs in natural language with the agent and to determine if a question has a response based either on a modelled intent or on searching unstructured and structured content.
        - Watson Knowledge Studio (optional)
            - Used to create domain-specific custom models that can be used to enrich unstructured content and extract custom entities and relationships in the data.

Customer Care Agent Assist
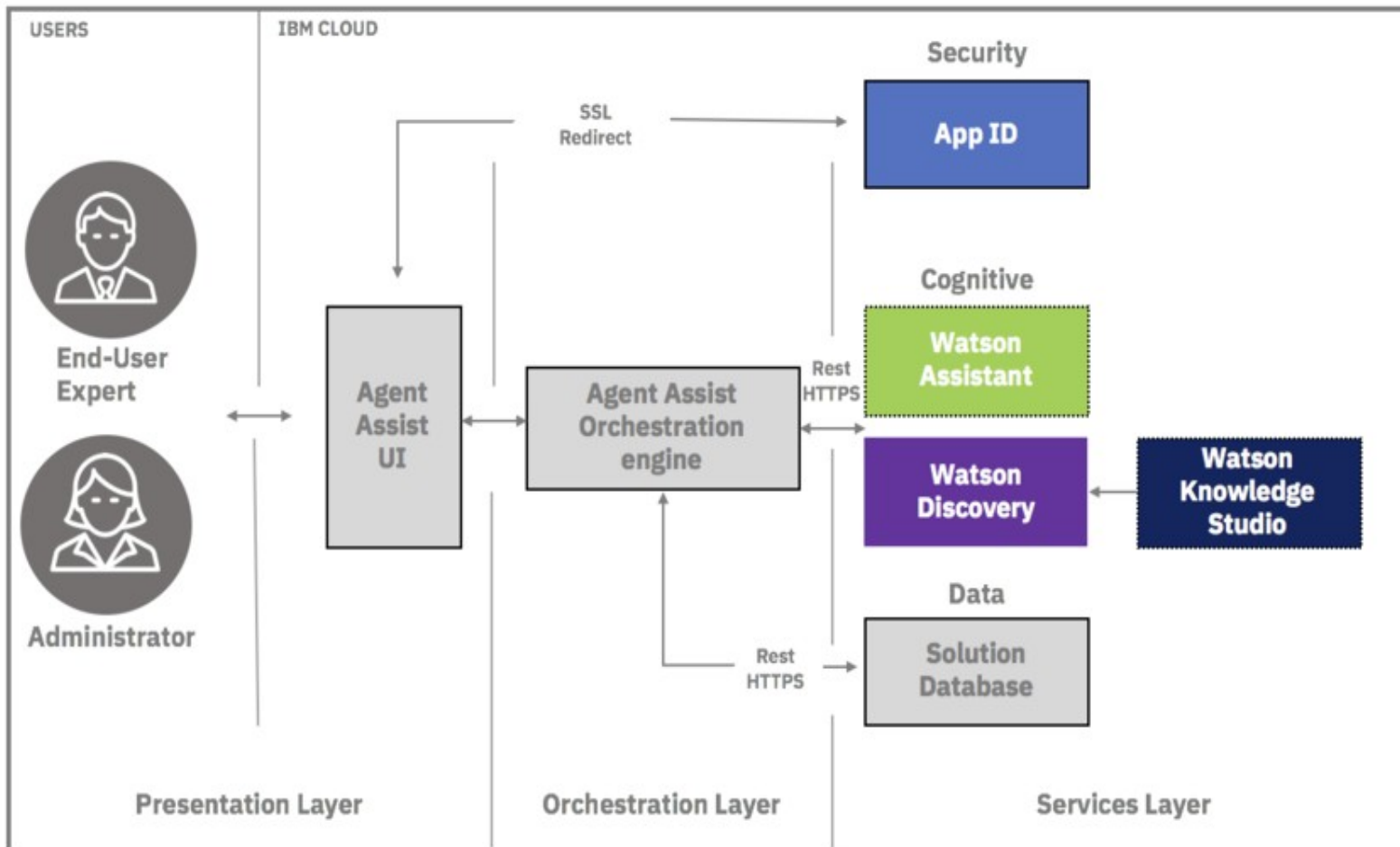
The solution is composed of **Watson Discovery, Watson Knowledge Studio, and Watson Assistant.**

Watson Assistant is optional depending on the type of interaction you are looking for – chat bot interface or database search engine interface

Watson Knowledge Studio is optional depending on whether or not the client wants to create a custom model for the terminology associated with their specific industry or company

IBM Watson Case Studies & Pricing

Watson Case Studies

- Santander - banking
- Prudential - insurance
- Apple – visual recognition in apps
- KPMG - HR
- Kone - elevators
- Thomson Reuters – data privacy expertise
- Autodesk – customer support
- E&J Gallo Winery – irrigation
- Plus RBS, Orange, Autodesk, Lloyds, Sprint, Vodafone, Honda

Watson Assistant Pricing

- Lite
  - Free
  - 10,000 messages/API calls per month
  - 5 skills/workspaces
  - 100 dialog intents/nodes
    - pay only for the call minutes and daily concurrent calls that you use - first 1,000 minutes and 2 concurrent calls per month are free
- Standard
  - 0.0025USD/message
  - Unlimited messages/month
  - 20 skills/workspaces
  - 10 versions per skill
  - Unlimited dialog nodes
- Also Plus, Premium, Deploy Anywhere and 30-day trial

Getting Started with IBM Watson

IBM Roadmap

Prove

"How do I reduce my customer hold times?"
" "How do I make my agents more productive?"
"How can I reduce agent attrition?'

Adopt

"How do I support customers across multiple channels?"
"How do I scale across my support organizations worldwide"

Transform

"How do I make my customer care organization an AI first organization?"

Driving progressive value with IBM Watson AI Customer Care

	Prove	Adopt	Transform
Capabilities	• Multi-channel support based on customer preference - Web/Bot/IVR • Interaction supports FAQ , Process Assistance, Research / Deep Search • Information Sources include Q&A , curated question/answer pairs for FAQs • Intents are function specific with support for a very specific set of questions or tasks • Support for 1-2 languages and single region	• Increased Cross Channel Integration • Expanded Interaction support with Follow-up Action and recommendations based on the initial interaction and available user profile information • Broad / unbounded unstructured information sources for complex searches • Intents covers "most" customer care requests to a single department • Multi-language and region support	• Seamless Cross Channel Integration • Process "Execution / Automation" – ability to perform transactions for the user • Live Data (Personalized Answers) – Integration with back-end system integration • Intents cover customer care across the enterprise • Robust KPI measurement that feeds into corporate decision systems
Approach	• Start with relevant use case focusing on the customer or agent: Care care Virtual Agent/ Customer Care Voice Agent/Customer Care Agent Assist/Agent Assist for Salesforce • Implementation span ~2 to 3 months	• Combine use cases e.g. Customer Care Voice Agent with Agent Assist for driving additional value or adopt across regions or functions for the company • Implementation span ~6 to 12months	• AI Competency established and integrated with company wide digital initiatives • Customer Care resources creating additional value from digital exhaust • Implementations span over 12months
Representative Customer Outcomes	**30** min saved per question for common queries to call-center agents **5.4** min Resolution time for most questions from 1.5 days	**700K** Calls handled by Watson, equivalent of 55 contact center reps **11** Products supported in less than 6 months	**20K** Customer advisors supported across 5000 branches **5200** Branches serving 65M Customers powered by Watson

IBM

Approaches to Getting Started

- What objectives?
  - Save money? Improve Cust Sat? Extend Hours? Train Agents?
- Choose a type of customer request
  - Product information, change of password, opening hours, etc.
- Choose an approach
  - Offload standard tasks or pre-agent tasks, support the agent...
- Choose one or more channels
  - Voice, IVR, SMS, …. but probably Web chat
- Start with Watson Assistant
- Add Discovery
- Add Voice
- Add back-end integration with IBM i and others

Tips

- Allow 4-6 weeks to get started with chat

- Understand the objectives and reflect them in the design
  - Who is the customer – Age? B2B or B2C? Prospect?
  - What are they trying to achieve - Buy? Learn? Password reset? Complain? Find a store?
  - What is the VA to do - fix? sell? advise? re-direct?
  - Who is the VA – An employee? A trusted advisor?
  - Speak in the style of your brand (e.g. Virgin vs. Coutts)
  - Don't try to pretend to be human
  - Train it on the words of your industry (from IBM) and your products (from you) and your history (from you)
  - 'Lean forward'/'lean back'
  - Get advice from an SI

Watson Method for Systems Integrators

- Solution Outline
  - Requirements Validation
- Solution Design
- Configure & Train
  - Question Collecting
  - Create Ground Truth
  - Dialog Configuration
  - User Interface
- Test & Optimise
  - Iterate back to Config & Train
- Deploy & Manage

Steps to set up Watson Assistant

- Sign up & Log In
  - Create IBM ID
  - Create IBM Cloud ID
  - Log into Cloud Dashboard
- Create Resource > Watson > Watson Assistant
- Create & name Service > Select Pricing Option > Launch > Create a Workspace
  - Create intents (find store) & entities (locations)
  - Build your dialog
  - Test your dialog
- Deploy
  - Slack, Facebook Messenger, Web App URL, App
- Improve

Summary & Close

Summary

- IBM Watson can improve your Customer Care

- It doesn't cost a lot

- It doesn't take a lot of effort to try it

- You can build up gradually from there

- You only need external (SI) help to take new steps, not for every instance

More information

- IBM
  - www.ibm.com/watson/se-sv/call-center-ai/assessment
  - watson-assistant-demo.ng.bluemix.net/
- Typex
  - www.typex.com

Next Steps

- Take the IBM Call Centre Assessment

- Show your team the demo.

- Foils will be on i-UG Website

- Questions now?
  - I will stay behind. 15 min break follows.

- Catch me over break or lunch
  - Contact Centre discovery form
  - Watson demo/evaluation
  - … a free CC review
- john_taylor@typex.com