

# THE FUTURE *OF* SERVICE IS COGNITIVE

A human hand and a robotic hand are shown pointing towards a glowing digital interface. The human hand is on the left, and the robotic hand is on the right. The background is dark blue with glowing circuitry and data lines.

**Jon Hall**

*Principal Product Manager, BMC Software*

 [@jonhall\\_](https://twitter.com/jonhall_)

# TRADITIONAL IT SERVICE MANAGEMENT SYSTEMS



Single System of Record



Standardized & Automated Processes



Structured Data Analysis



Orchestration of Human Activity

# DIGITAL IS SHIFTING ITSM PRIORITIES



**of enterprises feel ITIL is  
needing update  
(DevOps/Agile  
#1 area)**



**of workers will be  
Millennials by 2025,  
impacting user experience  
expectations**



**Development will include  
cognitive functionality in  
at least one application**

# TECHNOLOGIES TRENDS

## AI & RPA



*Join forces for a  
Cognitive Enterprise*

## IoT



*IoT gets down to  
business*

## Multi-cloud



*Multi-cloud  
becomes a reality*

Source: Forrester 2019 Predictions

# COGNITIVE SERVICE MANAGEMENT

is the use of Artificial Intelligence technologies to perform cognitive functions in the Service Management domain (IT or non-IT).

It is enabled by digitization, big data, machine learning and automation, and is expected to drive new levels of agility, productivity, and efficiency.



At BMC we've been asking,

What does the

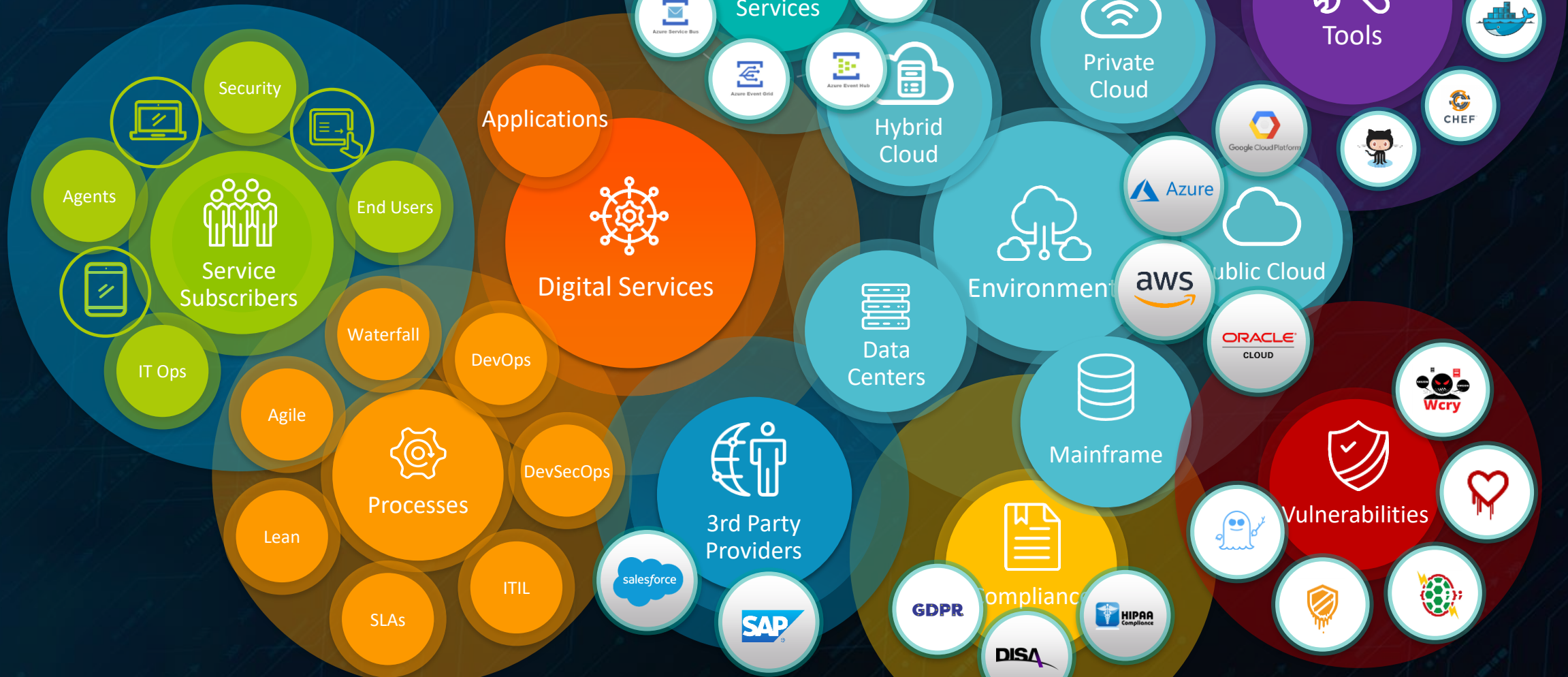
*Future of Service Management*

look like in 2020?

# DIGITAL ENTERPRISE REALITY



# DIGITAL ENTERPRISE REALITY





# JOURNEY TO COGNITIVE ENTERPRISE

Employee Engagement & Productivity



# FUTURE OF SERVICE MANAGEMENT

FROM ITSM TO COGNITIVE SERVICE MANAGEMENT (CSM)

**Today**

Human Driven (L0/L1/L2)



**Manual**

**Inaccurate**

**Expensive**



**Tomorrow**

Chatbots/Virtual Agents



**Speed**

**Accuracy**

**Lowest Cost**



Hi Joe Unser! I'm Helix the BMC Chatbot, here to help with your issue. What can I do for you today?

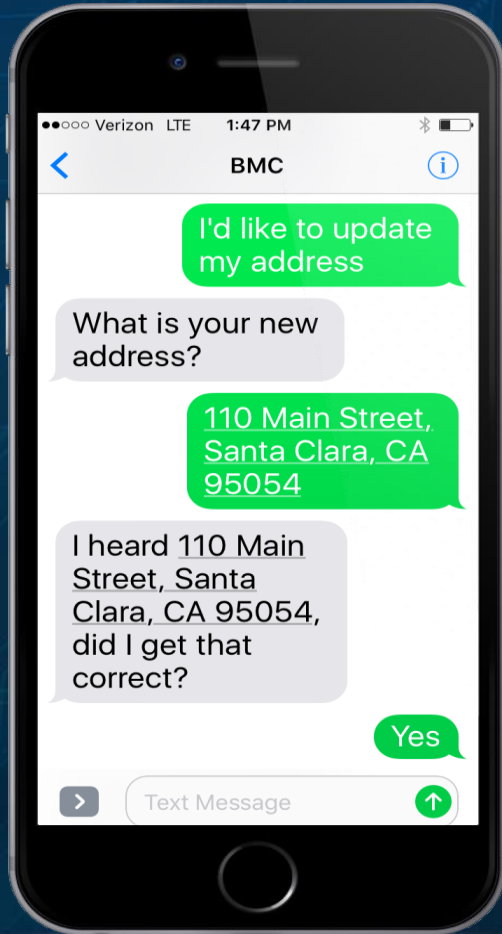
9:02 PM

Start typing your question



At any time if we get off track, just type 'start over' to start from the beginning.

# CHATBOT FOR FIRST-LINE CUSTOMER SUPPORT



Natural language processing

Intent analysis

Access to request catalog and knowledge base

Transfer to live chat (with sentiment analysis, language translation, ...)

Customer satisfaction survey

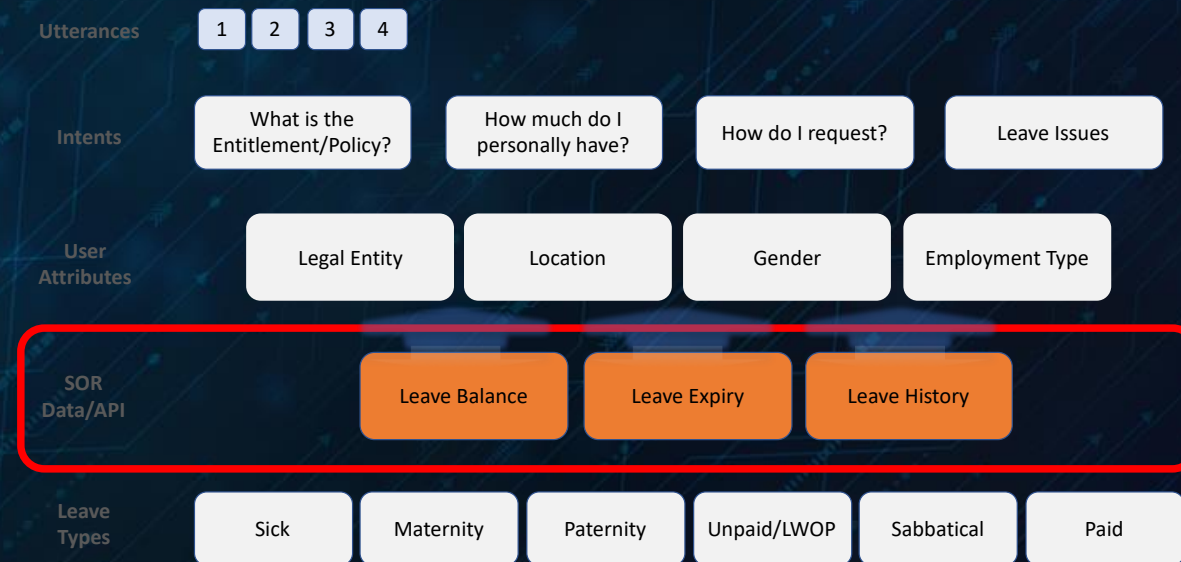
# BENEFITS OF USING A CHATBOT VS. SELF-SERVICE PORTAL / REQUEST CATALOG

- User does not need to search for correct catalog item
- User can explain what they want, in familiar terminology
- Using context and memory reduces data input requirement
- Omni-channel experience and higher user satisfaction

Leverage the benefits of a well-defined IT service request catalog – standardization, automation, control – and knowledge base, but in a more convenient, engaging way for the customer

# BEST PRACTICES FOR IMPLEMENTING A CHATBOT

- Identify most common, high-value use cases for requests (~10)
- Use knowledge base for other scenarios
- Focus on one language initially
- Defined model of user attributes, system records, categories
- Train system on conversations for select use cases
- Test & refine
- Expand

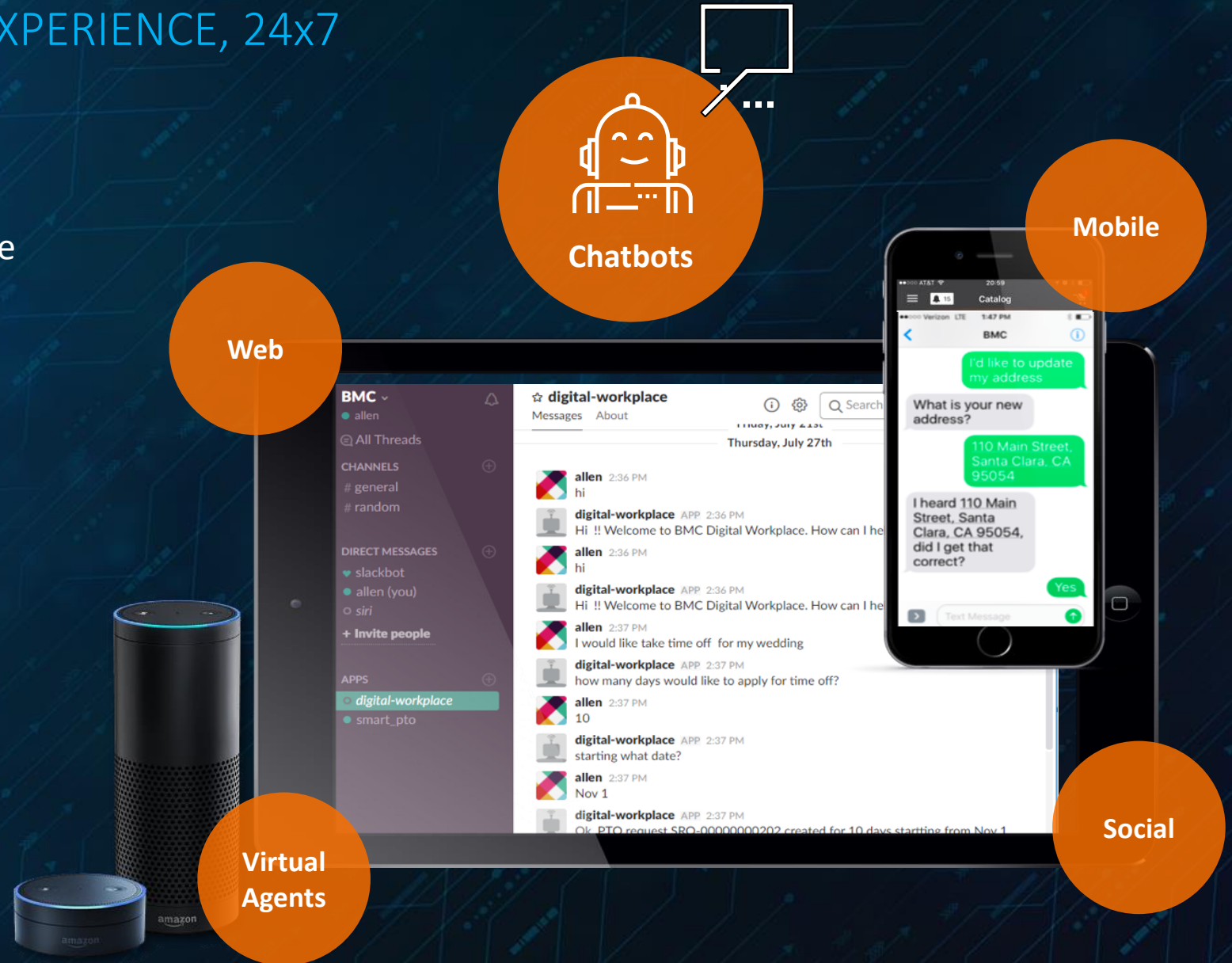


Be transparent; manage expectations;  
don't enforce the use initially

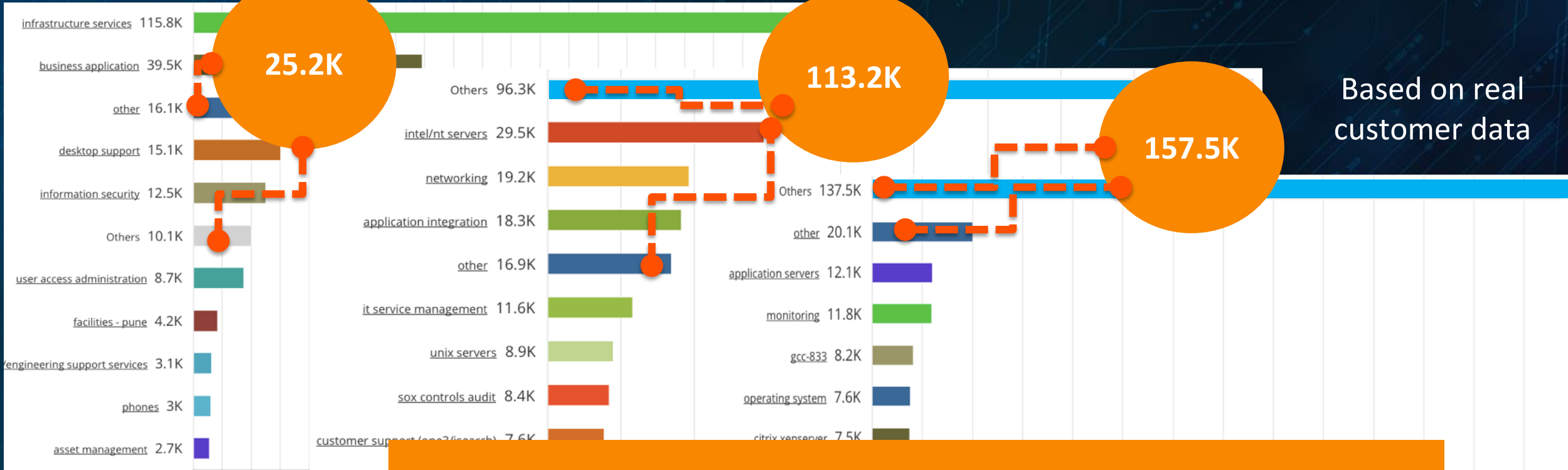
# CHATBOTS TRANSFORM SERVICE DESK EXPERIENCE

OMNI-CHANNEL END-USER EXPERIENCE, 24x7

- Automation of Service Desk interactions, 24 x 7, with immediate availability
- Chat interaction model perfectly suited to omni-channel support (e.g. Slack, Skype, Alexa or SMS)
- Bringing conversational interaction model to service catalog
- Transfer to live agent support is essential



# Problem: The "Other" Category



Based on real customer data

Tier 1 Category

Cost of Ticket Handling

~\$600,000

Impact on CSAT

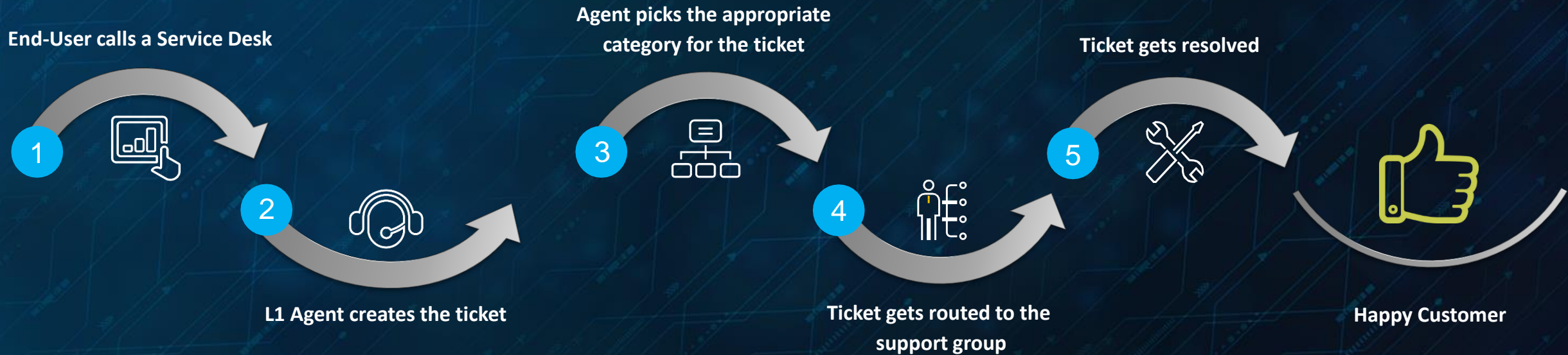
Unhappy Customers

Tier 3 Category



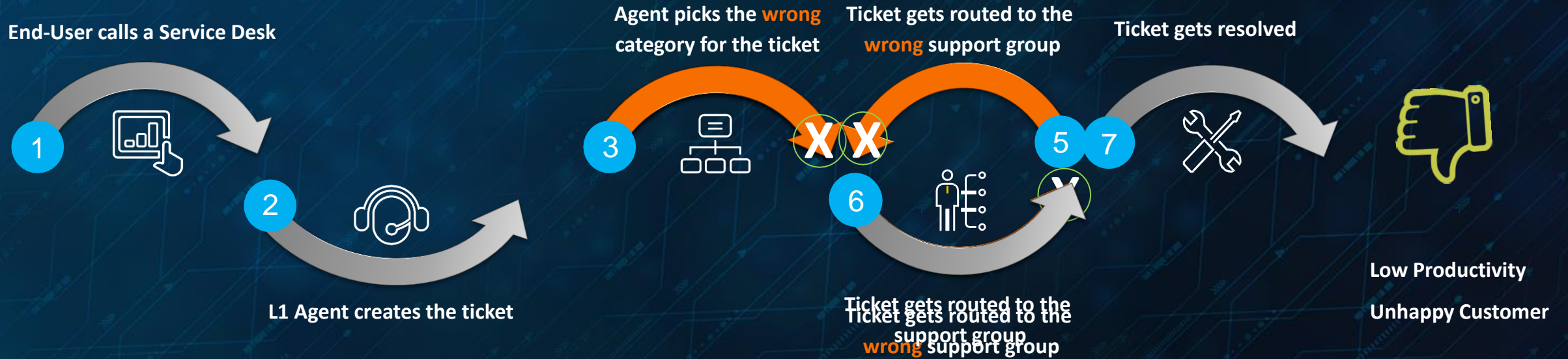
# A DAY IN THE LIFE OF A SERVICE DESK AGENT

TODAY



# A DAY IN THE LIFE OF A SERVICE DESK AGENT

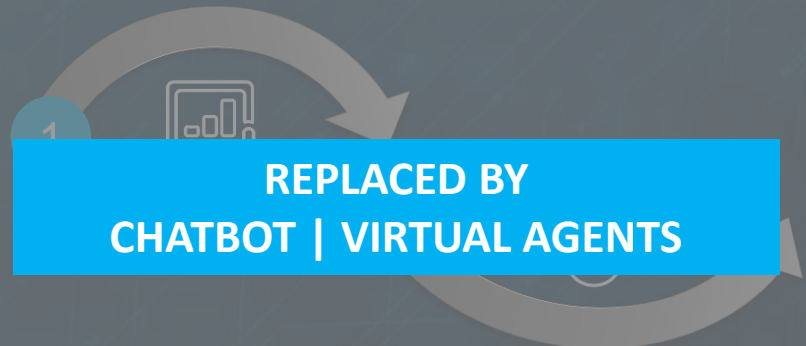
TODAY



# A DAY IN THE LIFE OF A SERVICE DESK AGENT

TOMORROW

End-User calls a Service Desk



L1 Agent creates the ticket

Agent picks the wrong category for the ticket



Ticket gets routed to the support group

Ticket gets resolved



Happy Customer

**OMNI-CHANNEL EXPERIENCE**  
chatbots, virtual agents

**AGENT & OPERATOR EFFICIENCY**  
Auto -classification, -assignment, -suggestion,  
-recommendations

Begin by entering person's name, email, login ID or corporate ID after the @ symbol. Then enter a description of the issue.

@ searches people or assets, ! searches templates



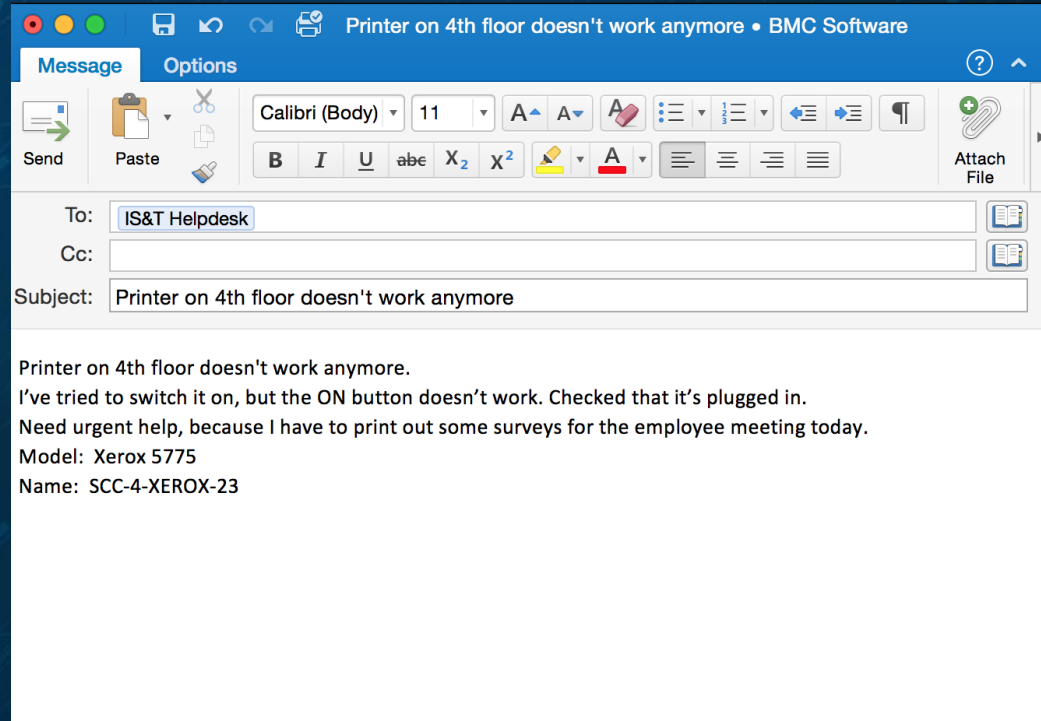
Smart Recorder finds resources for you while you take notes

Create Ticket ▲

Start Over

# COGNITIVE ANALYSIS OF INBOUND EMAIL

## FOR IMPROVED SERVICE DESK EFFICIENCY



Automatically analyse content of inbound email via Machine Learning algorithm

Auto-create incidents or change requests with correct template

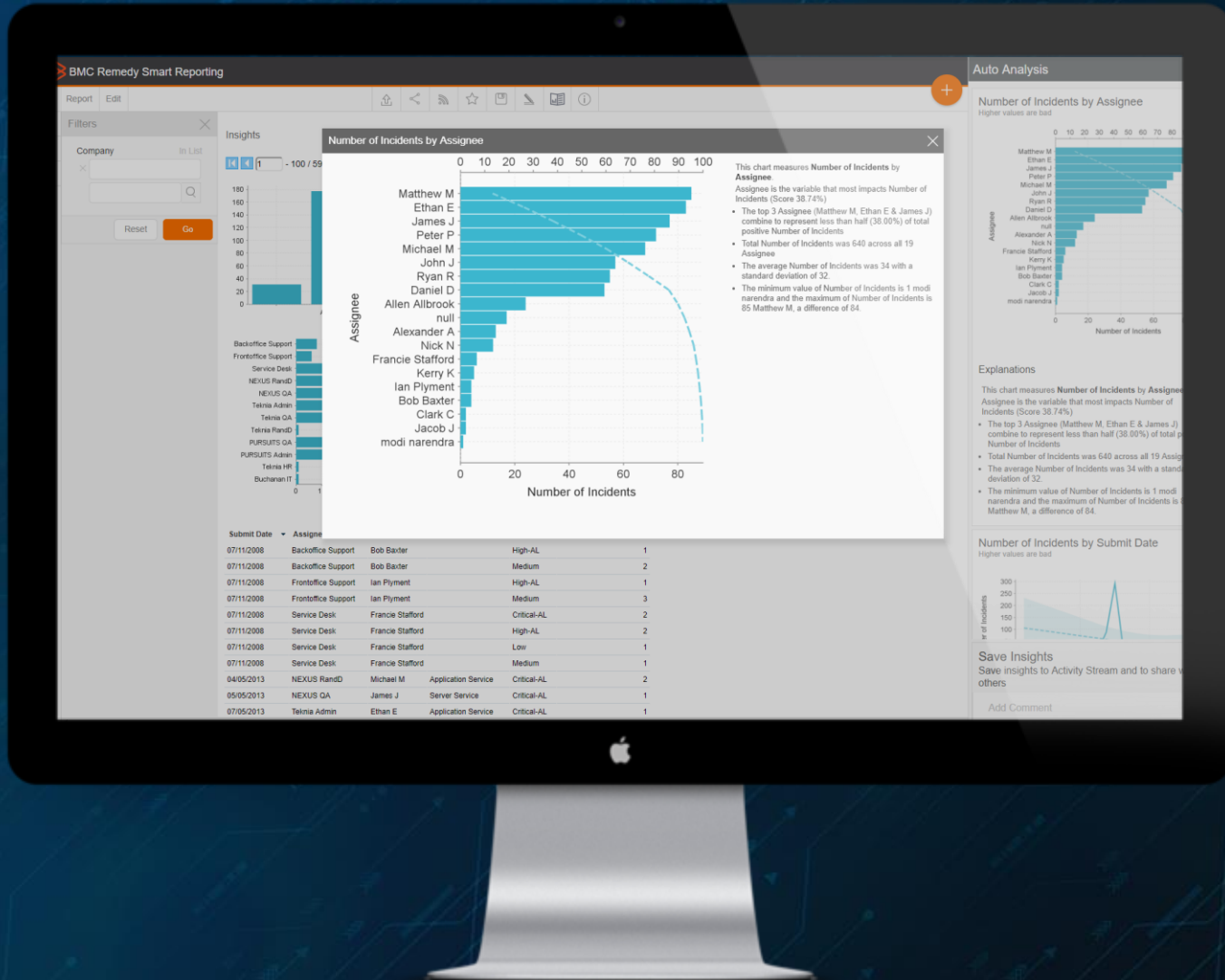
→ Standardized content, correct assignment

Confidence level threshold ensures high quality of template selection

# BENEFITS OF USING MACHINE LEARNING FOR CLASSIFICATION (TICKET CATEGORIZATION, EMAIL ANALYSIS, ...)

- Higher Service Desk agent productivity
- Better data quality of incidents → better quality of downstream activity
  - assignment: less ticket bouncing
  - prioritization: focus on the right incidents
  - reporting: more meaningful analytics
- Faster time to resolution for customer

# COGNITIVE DATA ANALYTICS



Identify patterns in ITSM data

From Correlation to Causality:  
Finding the “why” in the data

Textual summary of data

# BENEFITS OF COGNITIVE DATA ANALYTICS

- Effective way to interpret results and to communicate results
- Identify significant results / difficult-to-spot patterns
- Increase ability to take actions by detecting unknown causalities
- Optimize ITSM reports



# IT'S NOT ALL ABOUT REPLACING HUMAN TASKS

Cognitive can augment human activity:

- Suggested knowledge articles / actions
- Identify collaborators / experts based on context of work
- Identify next most important incident to focus on next
- Sentiment analysis during live chat support



# COGNITIVE CAN ALSO BE LEVERAGED TO OPTIMIZE ITSM PROCESSES / CONFIGURATION

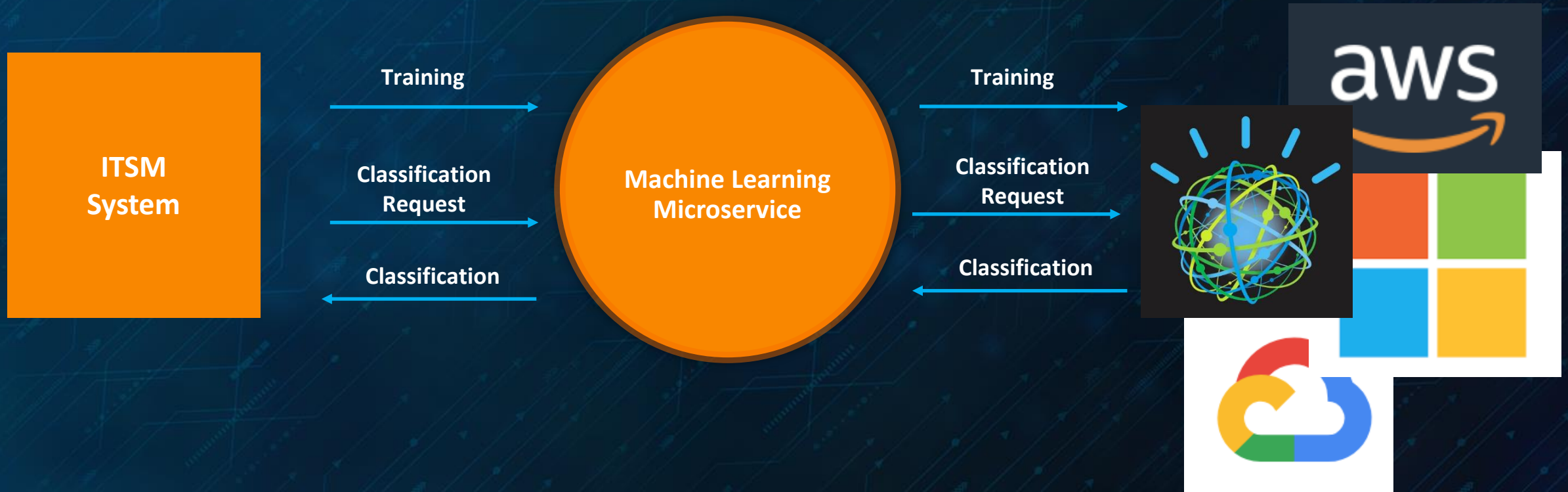
- Optimizing ITSM Configuration
- Number of support groups
- Structure of service catalog
- Reduce # of steps in processes
  
- Personalisation
- Suggested queries
- Default / quick-select values



# COGNITIVE SERVICE MANAGEMENT CONSIDERATIONS FOR A SUCCESSFUL PROJECT

- Think proactively about employee concerns
- Setting up the system
  - Training (data quality, data selection, ...)
  - Selecting an AI vendor
- Black Box problem
  - Lack of Traceability
  - Bias
- Security risks

# AVOID COGNITIVE VENDOR LOCK-IN



# THE FUTURE OF ITSM



Single system of record



Single system of record, intelligence and engagement (collaboration)



Standardized & Automated Processes



Standardized, Automated and Integrated Processes



Structured Data Analysis



Structured Analysis & AI Based Insights / Predictions



Orchestration of Human Activities



Orchestration & Automation of Human Activity

# CUSTOMER

## VALUE PROPOSITION

TODAY

TOMORROW



SERVICE DELIVERY

REACTIVE

PROACTIVE & PREDICTIVE



SERVICE DESK PROCESSES

MANUAL & time consuming

Mundane repetitive tasks  
are AUTOMATED



SERVICE RESOLUTION

SLOW and INACCURATE  
for end-users

FASTER & MORE ACCURATE



COST SAVINGS

SLOW RESOLUTION consuming  
more time & resources

COST SAVINGS through  
Speed and efficiency

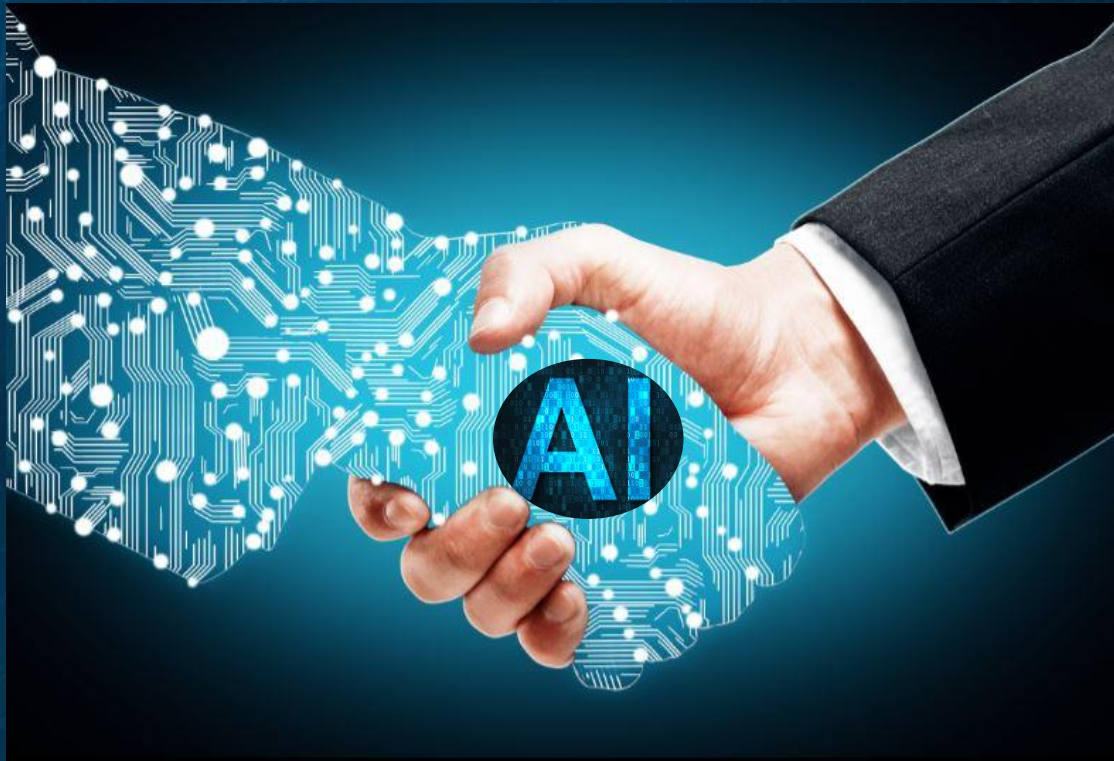
# “WE HAVE AN AMBITION TO REDUCE SERVICE DESK TICKETS BY 40%”

## CASE STUDY



# FUTURE OF SERVICE IS COGNITIVE

BEST OF HUMAN & MACHINE



1

**END-USER EXPERIENCE**  
*Chatbots/Virtual Agents*

2

**AGENT EXPERIENCE**  
*Cognitive Service Desk*

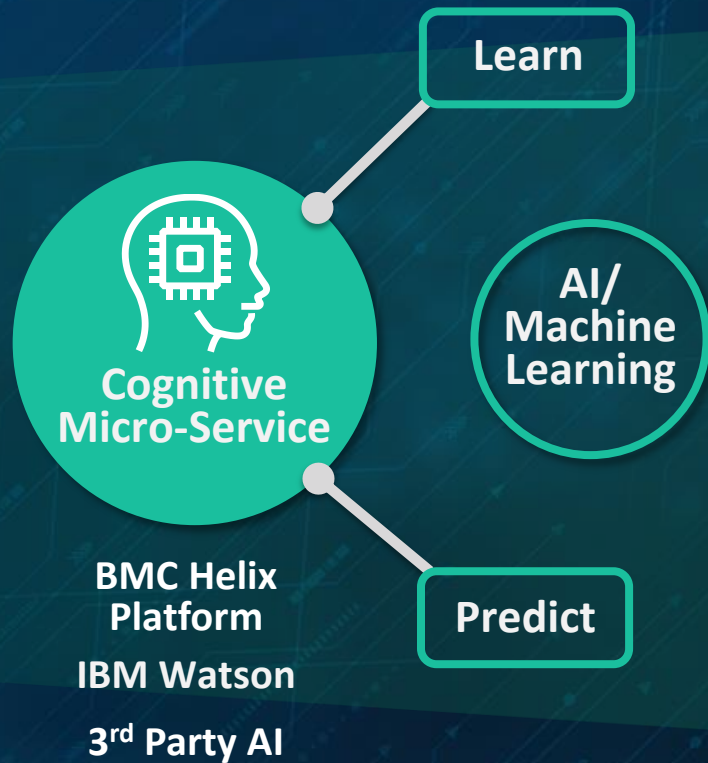
3

**DEVELOPER EXPERIENCE**  
*Cognitive Platform & Apps*

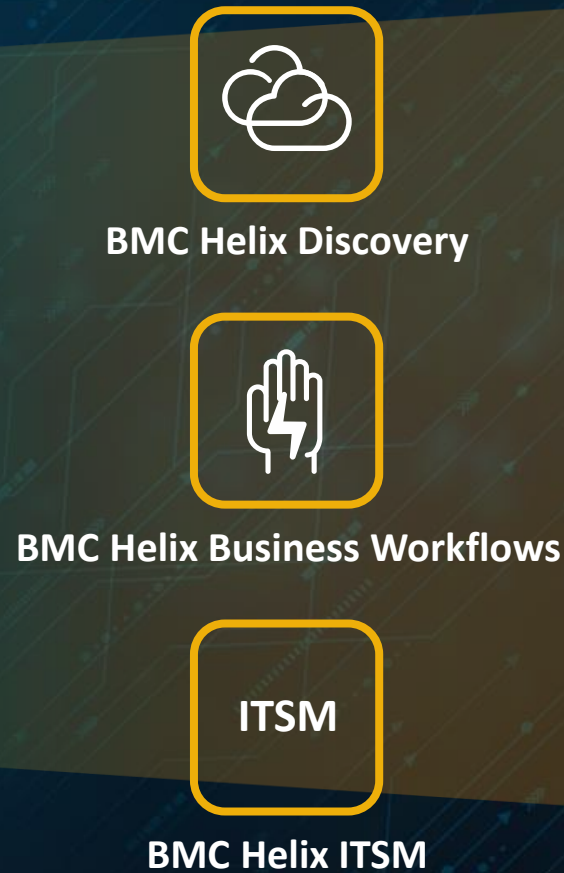


# BMC HELIX: FOR YOUR COGNITIVE ENTERPRISE

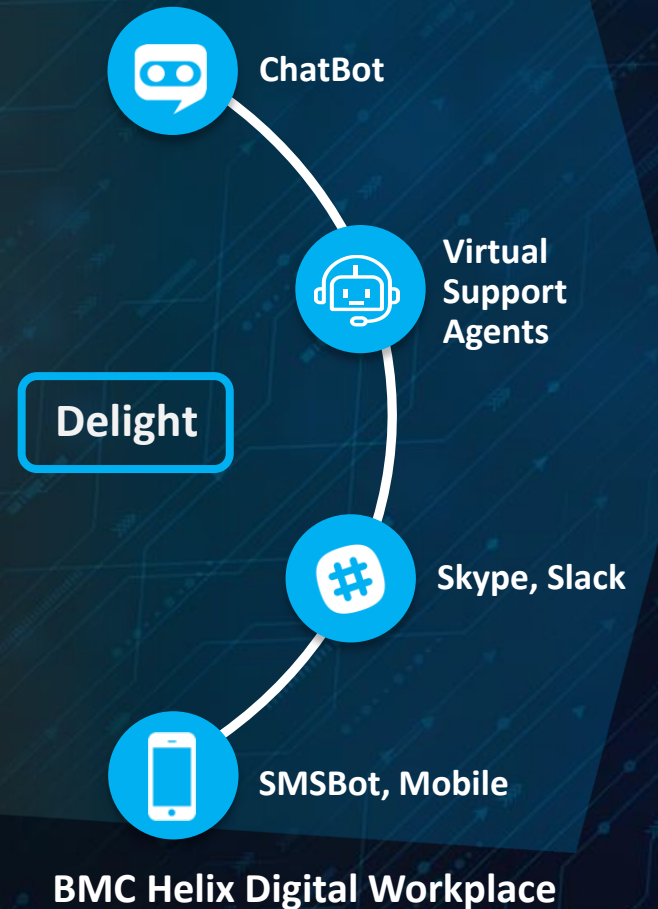
## SYSTEM OF INTELLIGENCE



## SYSTEM OF RECORD



## SYSTEM OF ENGAGEMENT



# BMC HELIX: COGNITIVE SERVICE MANAGEMENT

## 3 Cs FOR YOUR FUTURE-READY ENTERPRISE



### CLOUD

Everything-as-a-Service  
(ITSMaaS, DaaS, DWPaaS & BWFaaS)



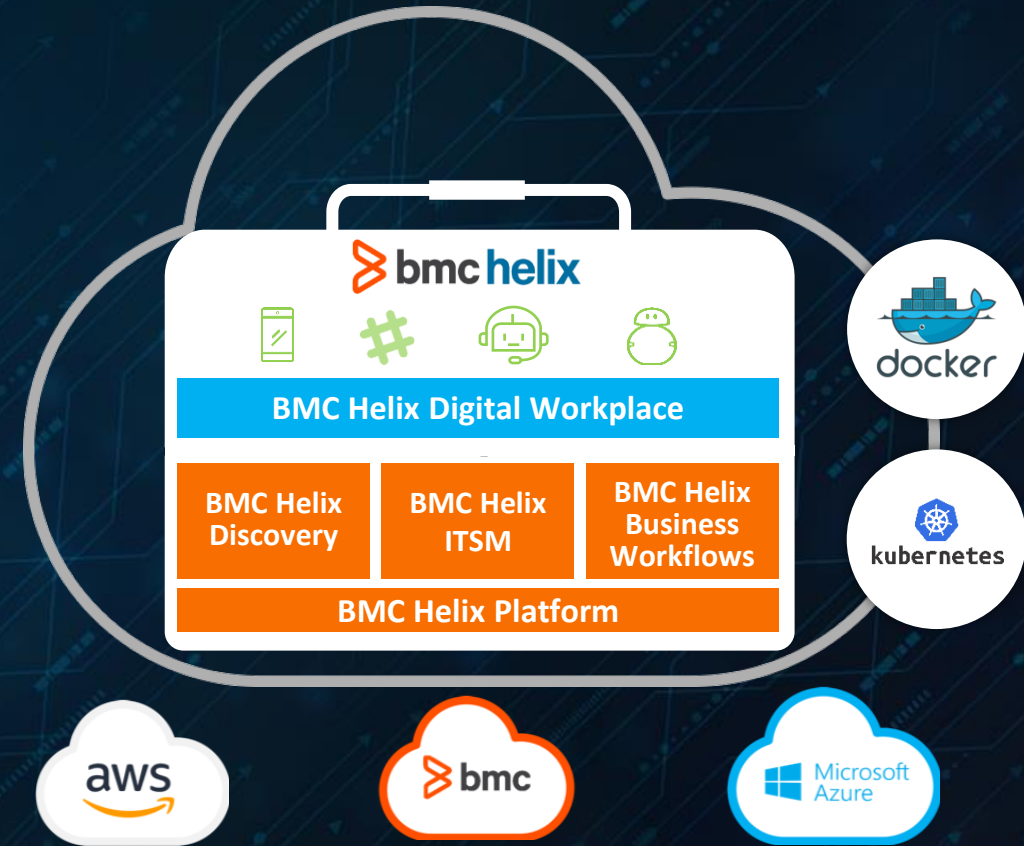
### CONTAINERS

Run in your choice of multi-cloud  
(BMC, AWS, Azure)



### COGNITIVE

Transform from ITSM to CSM by  
embedding cognitive capabilities




**POWERED BY:** BMC Helix Platform based on micro-services architecture & integrations through REST APIs

A conceptual image showing a human hand from the bottom left and a white robotic hand from the top right. Their index fingers are touching at a glowing blue circular point in the center. The background is a dark blue gradient with faint, glowing circuit board patterns.

# THANK YOU

[bmc.com/helix](https://bmc.com/helix)

 [@jonhall\\_](https://twitter.com/jonhall_)