Cognitive Contact Center

Catalyst Project

May 14-17, 2017 – Nice, France
Market Drivers

The 2020 CSP: end to end digitalization

- We live in a **Digital World** where technology, the **new “how” of doing things** and being **customer centric** have become a **success key factor**

- The Telecommunication Industry is aware of this digital wave where **digital giants OTTs** have **shaken the status-quo** capturing incomes and hitting CSPs margins

- At the same time, CSPs face the challenge of **fulfill digital natives** and non-natives expectations and reduce operational costs

- Today technological disruptions, industries convergence, CSP global scale scalability and brand value represent a **great grown opportunity for CSPs**

To make it happen, CSPs must become a **real player in the Digital World** ensuring the **Customer Engagement**
Market Drivers

The 2020 CSP: assuring the engagement with customer

Telecom customers expect to duplicate the use of digital channels but at the same time, they consider the Contact Center as the preferred channel for customer care interaction in the future.

Of the customers expect to interact with the Contact Center during post-sales

Digital Channels

SOURCE: Connected Telco LATAM, market Research done by everis based on 3600 interviews to telecommunication users, 2017
Market Drivers

The 2020 CSP: ensuring the engagement with customer

DURING post-sale, customers seek care in every moment and agility; this puts a demand on CSPs to be proactive and to anticipate problems

Required more than one interaction to solve problems or never were solved

What aspect do you value the most of the customer care?

SOURCE: Connected Telco LATAM, market Research done by everis based on 3600 interviews to telecommunication users, 2017
_the challenge
Contact Center represents one of the channels with the greatest number of customer interactions and it is estimated to be the preferred channel for customer care in next years.

We have two main challenges in this channel:

**Improve customer experience**

- Accessibility and resolution capabilities by automating complex customer journeys.
- New generation of digital native customer with increasing digital expectation.

**Reduce cost**

- OpEx in Call Center is one of our largest expenses, even with a decreasing trend driven by operational improvements.
- Digital channels migration initiatives have gradually less impact in overall cost reduction and increase the cost per call.
The introduction of **cognitive capabilities in our Contact Centers** represents an **opportunity** to significantly change the way in which we serve customers, **enabling those both drivers:**

- **Improving customer satisfaction** by means of more humanized, personalized and natural voice interactions.
- **Driving savings in OpEx** by means of more efficient interactions with a high level of automation.

**goals**

- Standardize and homogenize the different channels, avoiding human discretion
- Simplify of the model
- Get Efficient TMO
- Agility in the response to the customer

**tools**

- Natural Language Processing
- Cognitive Engines
- Speech Analytics
- Complete and accessible knowledge bases
- Clear and voice compatible criteria between automatic responses (bots) and agent support
Cognitive Contact Center
We envision a Cognitive Contact Center that truly engage native and non-native digital customers enabling a complete omnichannel digital customer care.

- **Always Available**: COGNITIVE (no menus)
- **No Queues**: PREDICTIVE
- **Sentiment Analysis**: PERSONALIZED
- **Smart Assistant**: ANALYTICS
- **End To End**: COSTS REDUCTION

**Functional satisfaction**

- Emotional connection
- Greater recurrence
- Functional satisfaction

**Useful**

- Information and transactions

**Easy to use**

- Personalized experience

**Anticipate needs**

- Predictive actions
Cognitive Call Center: approach

Our approach for the Cognitive Contact Center is based on the **continuous** and **progressive implementation** of use cases to be **moved** to an omnichannel Virtual Agent.
_Use Cases
Cognitive Contact Center: Use cases examples

Problem with data streaming service – Inbound (No Roaming Data Package)

1. I can’t connect to internet
   Customer

2. I see you are abroad. Let me do some checks.
   Monica

3. Access to Nokia Diagnosys Service Platform

Options:
1. No Roaming Data package
2. Wrong APN Configuration
3. No Roaming Services

4. To navigate you need a roaming data package
   Mónica

5. OK, I am going to be abroad 3 days. What do you recommend?
   Customer

6. I recommend you Roaming Passport Premium
   Monica

7. OK, Let’s do it know
   Customer

8. Access to Product Catalog

9. To navigate you need a roaming data package
   Customer

10. OK, For security reasons I need to do some validation checks. Can you tell me your ID
    Customer

11. Yes, 56…….
    Monica

12. Validate ID and birth year

13. Your roaming passport data package is now active.
    Monica

14. Great! Now I can navigate!
    Customer

15. Provise data roaming package
    Customer
Cognitive Contact Center: Use cases examples

Problem with data streaming service – Outbound

1. I detected you are abroad and activate roaming, do you agree?
   Monica

2. Yes, great, Thank you
   Customer

3. Do you want me to inform you about roaming data plans?
   Monica

4. Yes, please
   Customer

5. How many days are you going to be abroad?
   Mónica

6. OK, I am going to be abroad 3 days. What do you recommend?
   Customer

7. I recommend you Roaming Passport Premium
   Monica

8. OK, Let’s do it know
   Customer

9. Your roaming passport data package is now active
   Monica

10. Great! Now I can navigate!
    Customer

11. Provire data roaming package
    Access to Product Catalog

© 2018 TM Forum | 15
Billing information request or claim

1. I don't understand my last bill
2. Access to consumption reports
3. Is your request related with
4. Yes!
5. Explanation about the additional amount charged
6. Options:
   1. Accept explanation
   2. Transfer to Human Agent
7. Access to customer billing information
8. Access to previous conversation with Virtual Agent and Customer View through Unified Service Desk
9. Hi, I see that the problem of your bill is...
10. Access to consumption reports

Customer
Monica
Customer
Human Agent
Monica
Architecture
Cognitive Contact Center: High Level Architecture

The **architecture components** of this initial Catalyst phase are **totally connected** and it could be possible to **deploy** them **in the short term**. In fact, it has been possible to enable them leveraging existing implementation across Telefonica Group operations.
Cognitive Call Center: Technical Flow

Customer

Voice Recognition

Text-To-Speech

Everis Virtual Agent

Cognitive Engine (LUIS)

API Management

Service Virtualization

Service Management

Platform

Sentiment Analysis

Human Care

MS Unified Service Desk

MS Dynamic 365

STT

Get Intent

Get Sentiment Analysis

Answer

TTS

STT

Get Intent

Get Information

Service Virtualization

Answer

TTS
Cognitive Call Center: TM Forum OPEN APIs

8 TM Forum OPEN API supported

<table>
<thead>
<tr>
<th>TMF Open API’s</th>
<th>Traditional Channels</th>
<th>Digital Channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Party Management REST API</td>
<td>Contact Center</td>
<td>Shop</td>
</tr>
<tr>
<td>2. Resource Inventory REST API</td>
<td></td>
<td>Mobile App</td>
</tr>
<tr>
<td>3. Product Catalog Management REST API</td>
<td></td>
<td>Mobile Web</td>
</tr>
<tr>
<td>4. Product Inventory REST API</td>
<td></td>
<td>Web</td>
</tr>
<tr>
<td>5. Billing Management REST API</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Service Problem Mgmt. REST API</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Usage Consumption REST API</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Product Order Mgmt. REST API</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Voice Recognition & Text To Speech**

- Voice Recognition
- Text To Speech

**Everis Virtual Agent (eVA)** (Broker & Cockpit)

**Integration Layer**

- API Management & Portal
- Service Management Platform
- B/OSS
- Unified Service Desk

**Cognitive Services**

- Sentiment Analysis

**Service Virtualization**

- Party Management REST API
- GET /PARTYMANAGEMENT/INDIVIDUAL

- Resource Inventory REST API
- GET /resource

- Product Catalog Management REST API
- GET /productOffering
- GET /productSpecification

- Product Inventory REST API
- GET /product

- Billing Management REST API
- GET /appliedCustomerBillingCharge

- Service Problem Mgmt. REST API
- GET /serviceProblem/

- Usage Consumption REST API
- GET /usageReport

- Product Order Mgmt. REST API
- POST /productOrder

© 2018 TM Forum
Methodology
Our Conceptualization Methodology

To achieve such **fast results**, it has been mandatory to have a **new way of doing things**, considering new design thinking techniques that enabled a more **innovative** and **agile** vision:
• More **complex use cases** that require the development of **new capacities** through the use of **RPAs**.
• **Data Intelligence** use to increase the level of outbound interactions and offer advised up-selling and cross-selling products.
• Integration of **Identity Management** mechanisms, such as voice biometric authentication
• Enable the concept of “**User Lifecycle Management**” that will allow users to access to customer services and manage them
• **Omnichannel Experience**, by **extending the channels** the customer may interact through ensuring a unique an integrated experience for the customer
• **Augmented Reality**, allowing the customer to interact with **physical devices** (e.g.: home router) through the support of a Virtual Agent
• **New revenues streams**: Possibility of finding alternative ways for CSPs to generate revenues by providing “**Cognitive Contact Center**” as a service