uluiu cisco

> LET'S BUILD TOMORROW TODAY

Context Service The new cloud-based omnichannel solution for Contact Center Enterprise and Express

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BRKCCT-1005



Agenda

Scenario **Overview** Concepts **Data Model** Data Privacy Deployment Availability Out-of-the-box Management **APIs**



The ideal **Customer Experience**

Ciscoliv/Pl

Scenario

Overview

Concepts

Data Model

Data Privacy

Deployment

Out-of-the-box

Management

Availability

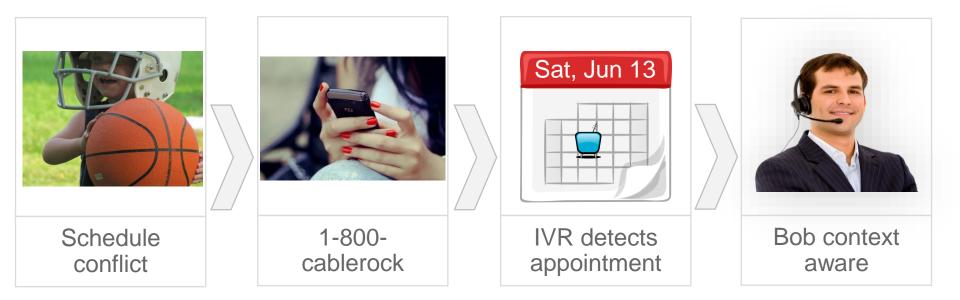
APIs

Mary's Journey – #1 Orders Cable Service



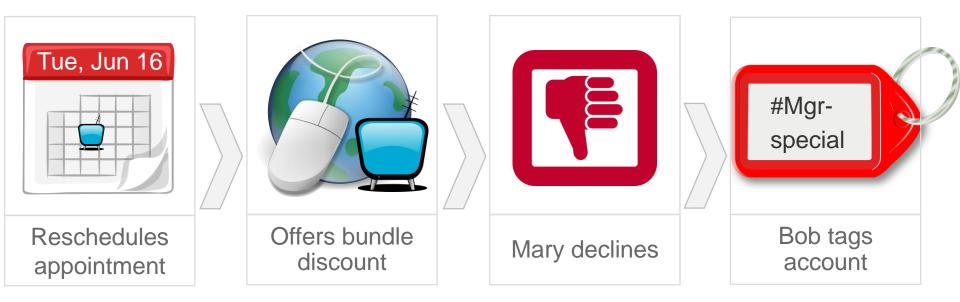


Mary's Journey – #2 Calls to Reschedule



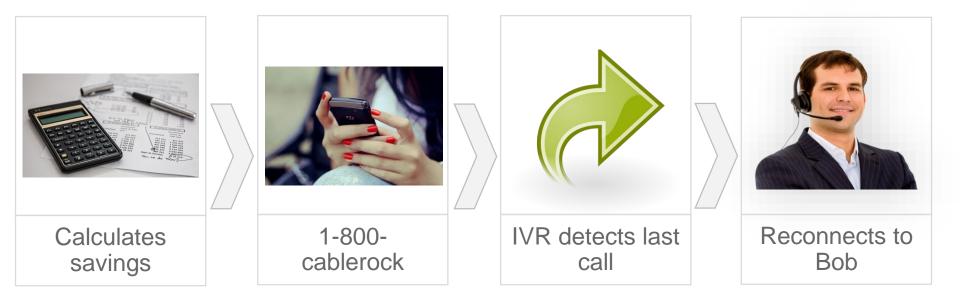
Reschedules appt.

Mary's Journey – #2 Calls to Reschedule



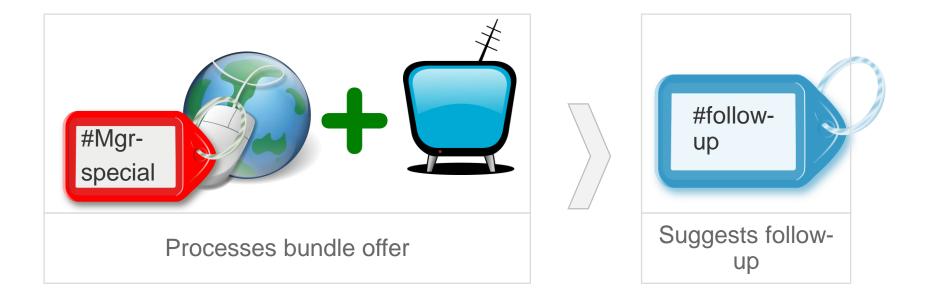


Mary's Journey – #3 Redials to get Bundle Offer



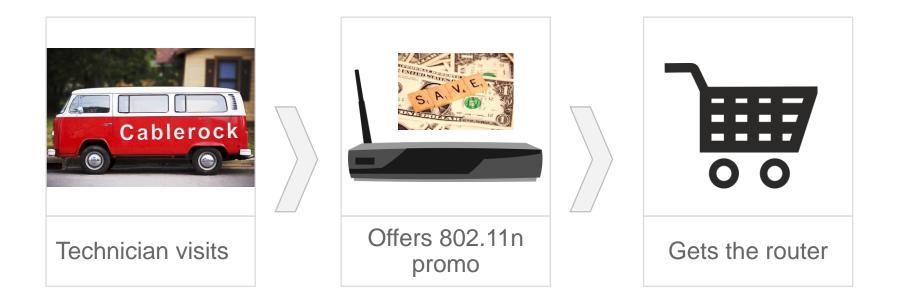


Mary's Journey – #3 Redials to get Bundle Offer





Mary's Journey – #4 Tech Visit





Mary's Journey – #5 Follow up



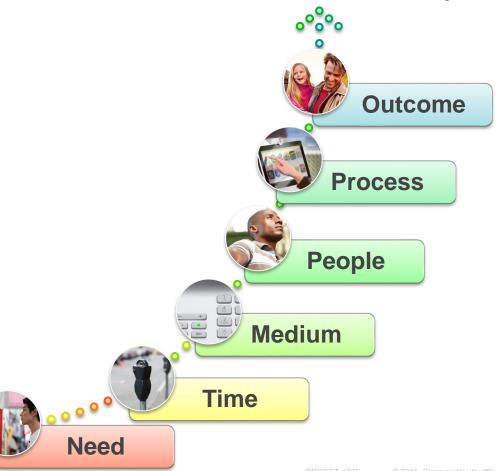


Journey is a series of experiences

Scenario Overview Concepts Data Model Data Privacy Deployment Availability Out-of-the-box Management APIs

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Elements that build a Customer Journey







Delivering seamless customer service requires putting together events across time, sources, people, processes and outcomes

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Mary's View

Bought service from Cablerock



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Cablerock's View

- Web portal integration
- IVR integration
- Agent screen pop
- Interaction history
- Frontline Tech visit
- Backend system integration
 with contact center
- Outbound follow up campaign

Context, Contextus in Latin, means putting together

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Multichannel + Context = Omnichannel

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Context Service Connecting Customer Journeys

Ciscolin/Pl



Context Service – a cloud-based omnichannel data store to map customer journey

Ciscoliv/

Context Service

Unify customer journeys, across time, medium, people, process and outcome



Understanding the Concepts

Ciscoliv/el

Scenario

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POD – a Piece of Data that represents an event in the journey

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Request – The customer's perspective to obtain their objective

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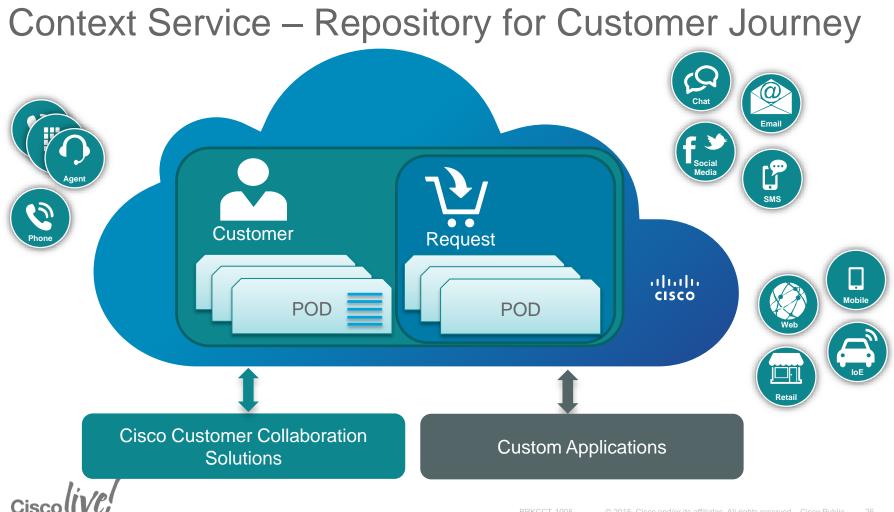
Customer – the person whose journey is stored in Context Service

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Organization – the business delivering customer service

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Feature of Contact Center Express & Enterprise

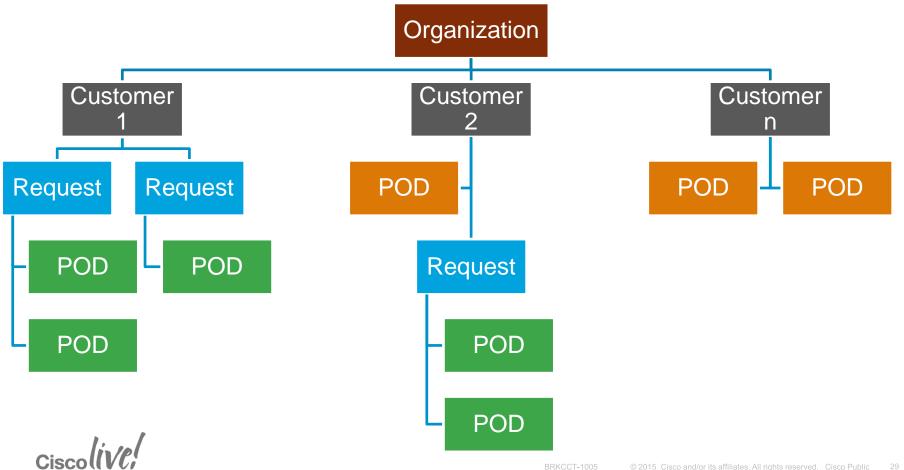
Integrated with CVP Call Studio, CCX Script Editor, Finesse, EIMWIM, SocialMiner

Start Of Call	IIIIII Agent 1001004 AGENT (1001004) - Extension CISCO © Ready ▼ 15:21 Home Ready for Incoming Calls	on 1001004			Sign Out
	Context Service			_	
Get Customer By ANI Customer given ANI Get Customer given ANI Get Customer given ANI Get Customer given ANI	All Customers Brian Cole 🗙				Q Find Customer
done done	Search Q	Customer			
Create POD about enquiry done don	 Leaking Oil Current (03:00 pm, 03/10/2015) 02:59 pm, 03/10/2015 02:53 pm, 03/10/2015 Service Due 02:43 pm, 03/10/2015 	Account No: First Name: Last Name: Phone: Email: Request Title:	777-9909 Brian Cole 978-989-0090 brian@org.com	Address: City: State: Country: Zip Code: Description:	34 Mass Ave Boston MA USA 02111 Oil leaking under the engine
		Activity Notes:	Part replaced under warranty		
Ciscolive,		Tags:	warranty × leaking-oil × 0 2015 Cisco and/or its affiliate	Sa Actua	mple Screen

Quiz: Is 'Request' mandatory?

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Context Service Data Hierarchy



Looking inside the POD

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Scenario Overview Concepts Data Model Data Privacy Deployment Availability Out-of-the-box Management APIs

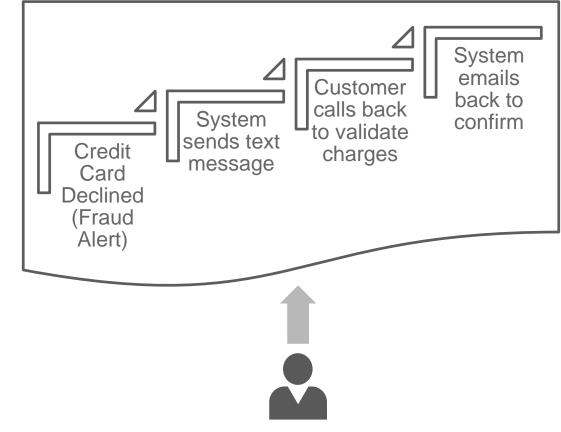
POD – Piece of Data

- · POD contains the metadata about an event
 - Service Metadata: Structured fields
 - Custom Metadata: Semi-Structured fields
- Supports 3 levels of data classification for custom data
- · May be associated with a customer
- · May be associated with a request
- Tied to workgroup(s) within an org
- Allows tagging
- Up to 256KB

{ refUrl":"/con	text/pod/v1/podId/fee9a070-c820-11e4-a298-7b10)3d1b0860",		
"id":"fee9a0 "customerId" "requestId": "state":"act	Service Data	to Customer Recor		
"mediaType": "fieldsets": "insurar]	Unique ID			
"dataElement {"lineOf],	Date Time			
"workgroups" "https // S {"ke // S {"ke], "https	Media Type	tedSCR":"GTJhYHGci		
	Contributors	tedSCR":"cucuiOKJ		
// s {"ke]	Customer ID	tedSCR":"cBMTFXiJ		
}, // Blob of E encryptedDat 39QM-zDw.ao7VQIu	Request ID	2In0.9wejwhePSqB_i 5ZkPHQW_nFUVDFDFH		
pcANZA2geOoqsdkG wSNcaJEb2kJCCvcv ZBd3lHuGi7YXpNgc RO3FGuiezvw12wne	Fieldsets	5Kpg5GgE_oz2yvr2g zMUFM9RbEJz5hOoQW gvZe3fSiF0k7yqNEP 4xfSTZho5k8ZV90hH		
1EXxpuADabeVq0TC // Blob of F piiData: "ey 9BfhpgilvZ8qLVTt _k5TicIIjuLi_s9j d3XsaUnesyhkjF64 ott for	Workgroup	I I SVmpA8c7ZHw3m4AI7I		
	Tags	-hHHahsplxrbu193i IDnhhGyw7qTYuBIXt IPb79HHrBA6eb_YUn		
qdNhfr8_Wj6nXlSW B80_Lf.fJhFawooj "tags":["Fender	Custom Data	34e8igv_6Q7dGXoej		
], "contributor "web":"i "agent":	Data			
}, }		31		

Request

- Represents customer's view
 of the issue/resolution
- Links one or more PODs logically related to a specific issue or need
- Contains unique ID, Date time and custom data
- Tied to workgroup(s) within an org
- Up to 256KB



Customer's Request: Approve My Transaction

Customer

- Contains Personally Identifiable Data to identify the customer
- Customer ID used to link all PODs
- Ships with a default template of fields, can be customized
- Tied to workgroup(s) within an org
- Up to 256KB
- Can map to an external customer record source
- Supports look up by PII





Unleashing the power of Semi-structured Data

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Make your own Sundae – Business decides what to store and how to store

Ciscolive

Custom Data: Fields and Fieldsets

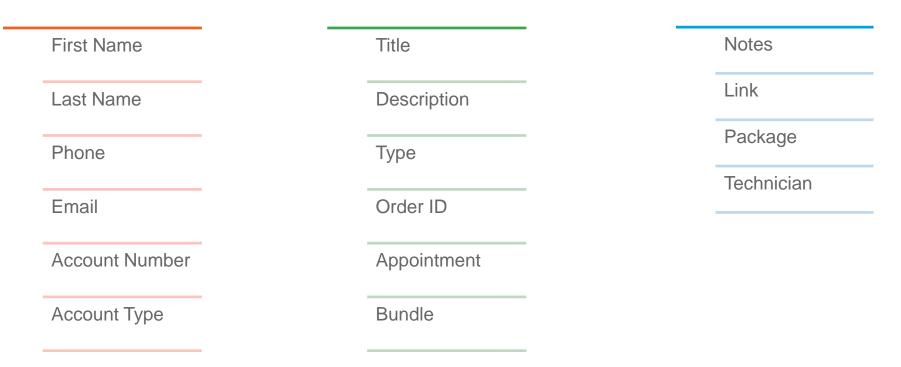
Fields

- Business can define fields they want to store in POD, Request or Customer object
- No limit on number of fields
 - Total space limited to 256KB per object
- Field can be of any type string, int, float, date, url, etc.
- Field names are localized

Fieldsets

- Group of logically related fields
- One or more Fieldsets are assigned to PODs, Request or Customer
- Fieldsets identify valid fields for an object, it is not a required set of fields
- Ships with Cisco provided default templates
- Integration partners can define template for their products

Data Modeling Mary's Journey – Define Fields







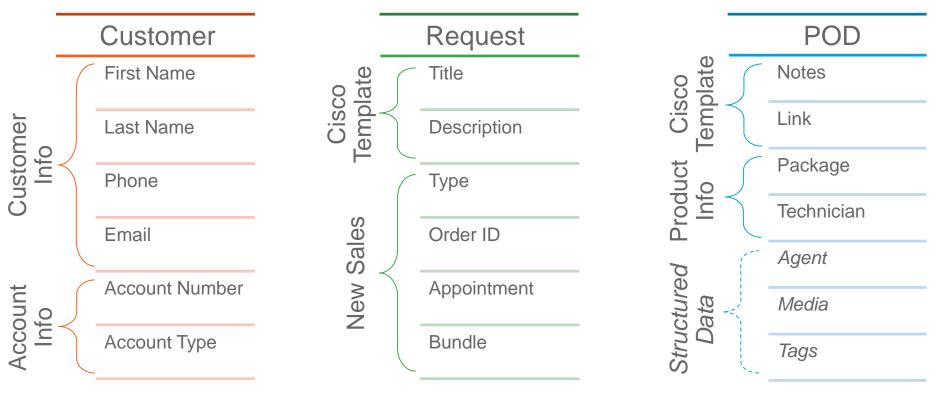
Data Modeling Mary's Journey – Group related Fields to create Fieldsets



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Data Modeling Mary's Journey – Associate Fieldsets to relevant Objects on create/update



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Route to the last handled agent on channel shift or redial

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Quiz: What data do I publish in Context Service?

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Context Service can either hold the business data or link to it

- Claim ID
- Adjuster Name
- Date of accident
- Location of accident
- 2nd party insurance provider
- 2nd party policy number
- 2nd party policy holder
- Notes

Claim ID

- Link to claims backend system
- Notes





Route based on previous call outcome such as customer sentiment or self service

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Tagging PODs

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Tagging

- Helps associate related activities across customers to derive trends or search related data
- · Agents can look for 'similar issues'
- Supervisors or Managers get trending information in real time
- Provides 'unlimited' wrap-up codes



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Mary's

Bob tags Mary's 1st call with *mgr-special* tag so she can get the bundle later

Bob tags Mary's 2nd call with follow-up tag so system can remind him

System tags Router change with 802.11n-promo tag so agent knows about Mary's complimentary router upgrade







Tag call for follow up and run outbound campaign on all tagged calls

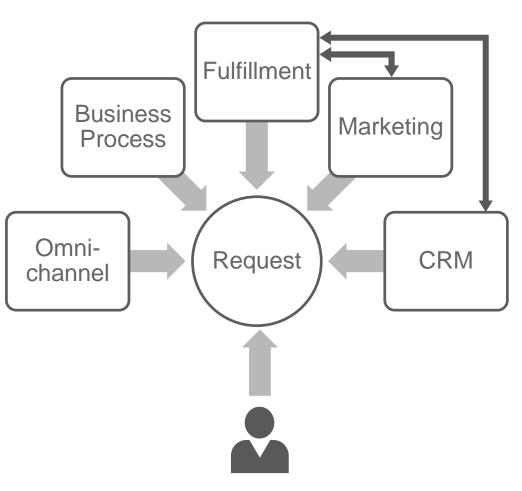
Ciscolinial

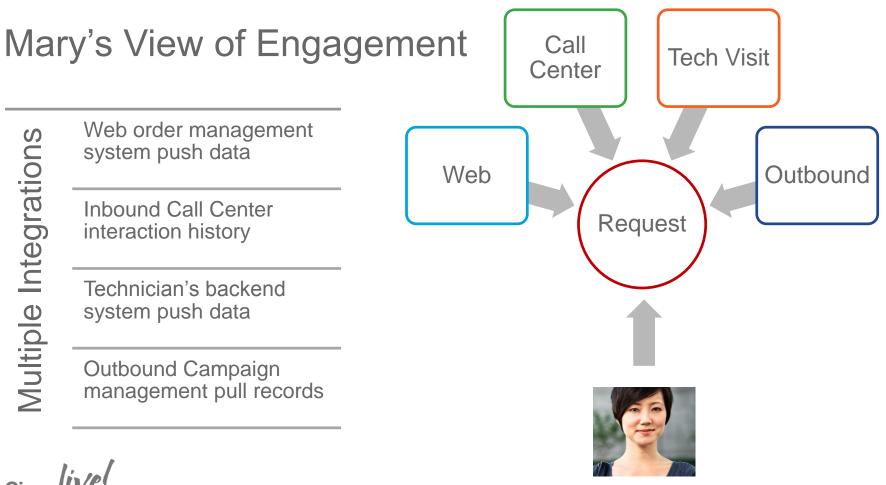
Quiz: Is Context Service the "system of record" or "system of engagement"?

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System of Engagement

- Context Service is the System of Engagement
- Business applications continue to function as the System of Record
- A Request can map to one or more business applications to represent customer's view
- One business process may consider issue as resolved but it may not be customer's view
- Systems of record may communicate with each other via an Enterprise Service Bus without Context Service









Integrate multiple backend systems to deliver a unified view to the customer

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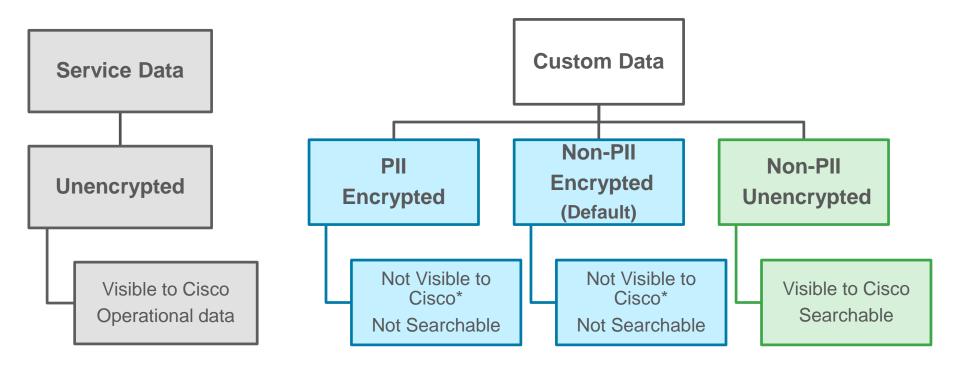
Data Privacy is the relationship between collection and dissemination of data, technology, the public expectation of privacy, and the legal and political issues surrounding them

- Wikipedia

Scenario Overview Concepts Data Model Data Privacy Deployment Availability Out-of-the-box Management **APIs**

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Data Privacy Model



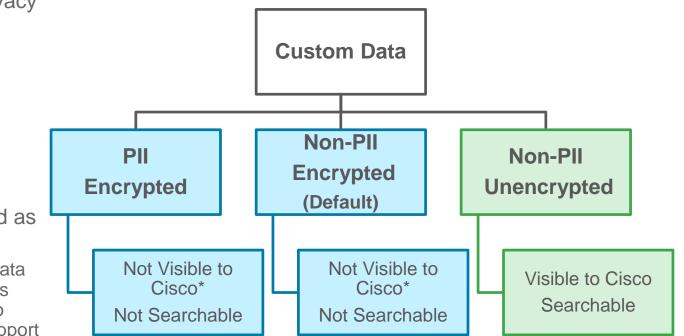
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*Requires KMS to be hosted by org or 3rd party for complete isolation

Data Privacy Model

- Business decides privacy level of custom data
 - PII Encrypted
 - Non-PII Encrypted
 - Non-PII Unencrypted
- Selective access to encrypted data by workgroups
- PII data always stored as encrypted
 - Customer object PII data stored as encrypted as well as anonymized to protect identity yet support look up





*Requires KMS to be hosted by org or 3rd party for complete isolation

Quiz: Can org download the data?

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Org can provide an analytics apps access to subset of data for anonymous processing

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Access control, Data Encryption and Key Management

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Securing POD, Request, or Customer - Custom Data

Service Data

Created Date	29-Apr-2015
ID	fee9a070-c820-11e4-a298-7b103d1b0860

Unencrypted Data

Title	Missing reward points
Description	Apply points for recent purchase

Encrypted Data

Rewards Level	Gold		
Current Balance	25,756 points		
Additional Points	2877 points		

PII Data

First Name	Fred		
Last Name	Smith		
Phone Number	555-867-5309		
Email	fred.smith@gmail.com		



Control access to the object via workgroup memberships

Service Data

Created Date	29-Apr-2015	
ID	fee9a070-c820-11e4-a298-7b103d1b0860	

Workgroup 1 – Prod

Workgroup 2 – Lab

Unencrypted Data			
Title	Missing reward points		
Description	Apply points for recent purchase		

Encrypted Data

Rewards Level	Gold		
Current Balance	25,756 points		
Additional Points	2877 points		

PII Data

First Name	Fred		
Last Name	Smith		
Phone Number	555-867-5309		
Email	fred.smith@gmail.com		



Encrypt private data with 2 separate client generated keys

Service Data

Created Date	29-Apr-2015	
ID	fee9a070-c820-11e4-a298-7b103d1b0860	

Workgroup 1 – Prod

Workgroup 2 – Lab

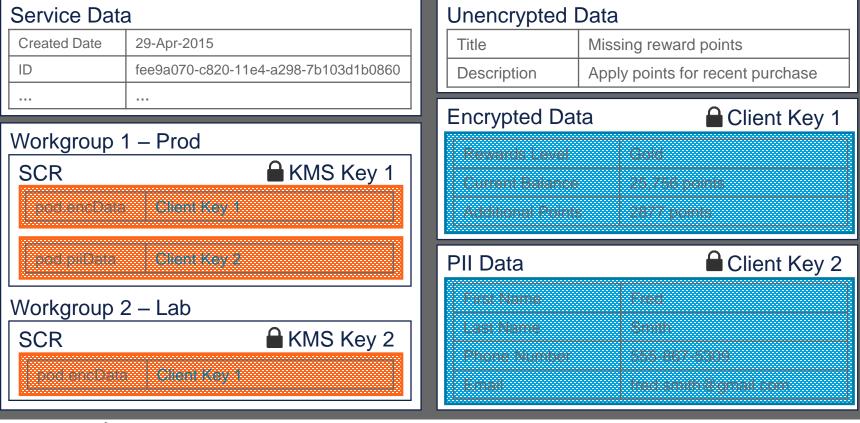
Unencrypted Data					
Title	Missing reward points				
Description	Apply points for recent purchase				
Encrypted Data		Client Key 1			
Rewards Level		Gold			
Current Balance		25.756 points			
Additional Points		2877 points			
PII Data		Client Key 2			
First Name		Fred			
Lasi Name		Smith			
Phone Number		555-867-5309			
Email		fred smith@gmail.com			

Provide access to encrypted data per workgroup via client keys in SCRs

Service Data			Unencrypted Data		
Created Date 29-Apr-2015			Title Missing reward points		
ID	fee9a070-c820-11e4-a298-7b103d1b0860		Description Apply points for recent purchase		
		ľ	Encrypted Da	ta 🔒 Client Key 1	
Workgroup 1 – Prod			Rewards Level	Gold	
Secure Content Reference			Current Balance		
pod.encData Client Key 1			Additional Point	s 2877 points	
pod.piiData	Client Key 2	ľ	PII Data	Client Key 2	
Workgroup 2 – Lab			First Name	Fred	
Secure Content Reference			Last Name	Smith	
pod.encData	a Client Key 1		Phone Number Email	555-867-5309 fred smith@gmail.com	

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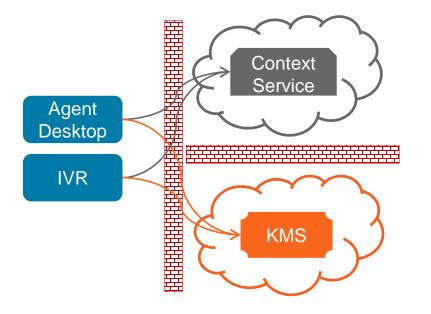
Encrypt SCRs with keys from Key Management Store per workgroup



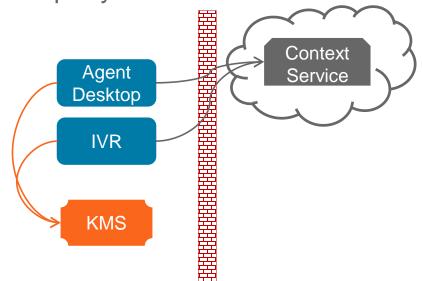
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Key Management

Keys hosted on separate Cisco Data Centers



Future: Keys can be hosted on business premise or vendor neutral 3rd party





Why Cloud?



Scenario Overview Concepts Data Model Data Privacy Deployment Availability Out-of-the-box Management APIs

Facts

Finance

CSA's review of 102 financial institutions around the world found that 7% had a strict no-cloud policy, 32% had a cloud usage policy, and 61% were working on developing a cloud policy

Government

NASCIO finds that 20 percent of states are now investing heavily in cloud computing

Healthcare

HIMSS Analytics recent survey of cloud computing adoption in healthcare provider organizations found that 83% of IT executives report they are using cloud services

Manufacturing

In the U.S. 41% of 593 manufacturing companies surveyed by IDC said they are accessing IT resources via the public cloud.

Cisco (VC

Benefits

- Budget flexibility
- Cost savings
- Elasticity
- Agility
- Opportunity to improve
- No upgrade cost
- Easy partner integration
- Ironically more secure!

Where is the Cloud?

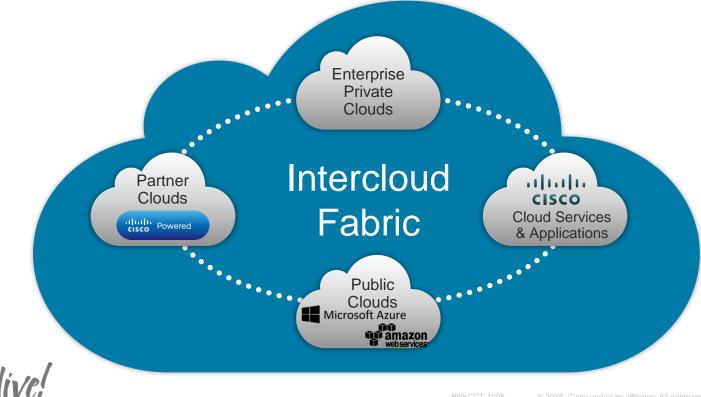
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Context Service hosted on Cisco Cloud Services



CCS is part of Cisco Intercloud

Connecting multiple cloud ecosystems with Cisco Intercloud Fabric



Coming soon to a cloud near you



Availability (Roadmap, Subject to Change)

- Service Limited Availability
 - 2H CY 2015
- Entitled to customers with active SWSS subscription on:
 - UCCE, PCCE, HCS
 - UCCX
 - CVP
 - EIM WIM
 - Note, eGain S+ doesn't provide entitlement but can be used along with other Cisco entitled products
- Requires minimum release 11.0 components
 - Built in cloud connectors and user interface in the following components:
 - CVP Call Studio, Finesse, EIM WIM, CCX Script Editor, CCX SocialMiner

Cisco lin Int

Context Service is available with Cisco Contact Center Express and Contact Center Enterprise as an Out-of-the-box feature



Ciscolin/P

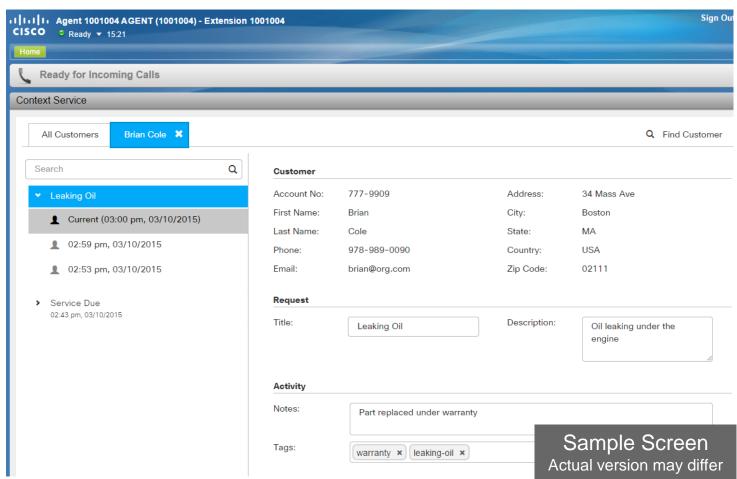
Desktop integration

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Contact Center Express & Enterprise: Finesse

- New gadget hosted from cloud
- Shows all Requests and PODs by Customer
- Org can customize fields layout in CCM

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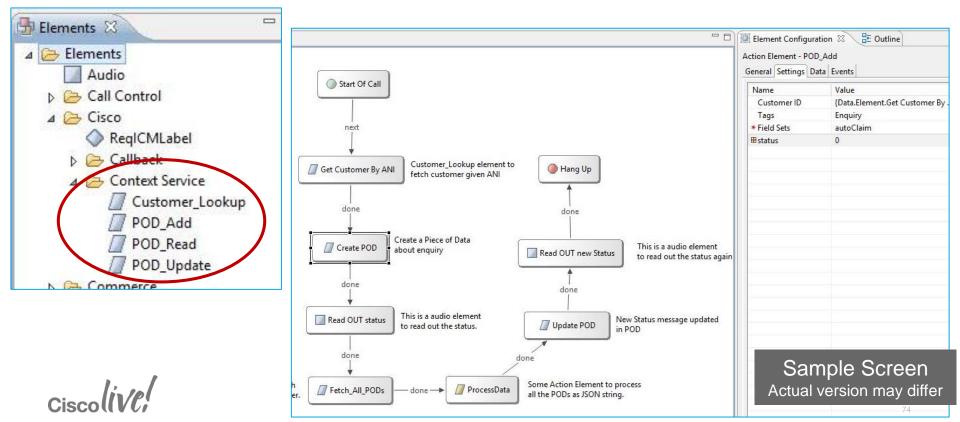


IVR integration

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Contact Center Enterprise: CVP Call Studio Contact Center Express: Script Editor

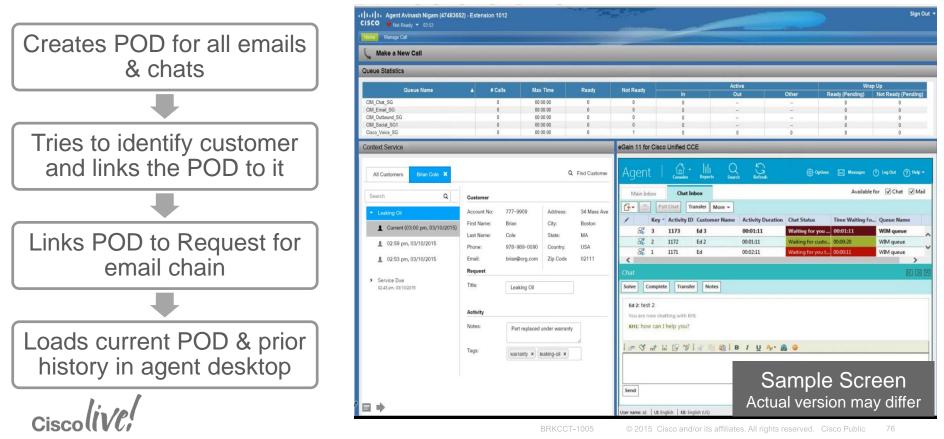
Four new nodes/steps introduced in CVP Call Studio and in CCX Script Editor



Multichannel integration

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Contact Center Enterprise: EIM / WIM or eGain S+ Contact Center Express: SocialMiner



Enabling Context Service from Contact Center Enterprise or Contact Center Express

Scenario Overview Concepts Data Model **Data Privacy** Deployment Availability Out-of-the-box Management **APIs**

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Partner creates an account for Organization in CCM

-dudu cisco	Cisco Collaboration Management Q								Carlie Skywalker		
•	Customers A							E	Add Customer		
Overview	Company Name	License	Add New C	luctomor		\sim			Actions		
	3M Company	10	Add New C	Justomer		×					
Customers	Acme Company	25	Customer Informatio	on							
W	Home Depot Inc.	66	Company Name Lo	rem ipsum dolor							
Monitor	Boeing Company	1447	Email								
	IBM Corporation	523									
	General Electric Company	332	Terms of License	# of Licenses	Duration						
Support	Gaterpillar Inc	143	Webex	* 01 Electrises	30 Days 🔻						
=	Boeing Company	701	Spark		30 Days 🛛 🔻						
Account			Context Service	N/A 🔻	Perpectual 💌	_					
				Cancel	Add				Sample Scr Actual version ma		
co									dı		

differ

Admin Registers On-Premise Application to Cloud

li.ili. cisco	Cisco Finesse	e Administra	ation		_		
Settings	Call Variables Layout	Desktop Layout	Phone Books	Reasons	Team Resources	Workflows	
Context Ser	vice Management						
This Fir	er with Context Service nesse deployment is not regis Collaboration Management ac		-		egister. You will be pron	npted for Cisco	
Registe	er					_	•
•	CVP OAMP Finesse Admi EIMWIM Adm					Verifying re	gis

CCX Admin (for IVR, Desktop and Multichannel)

Ciscolin



Enabling Context Service Complete!

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Registration and Connectivity Status in CCM

sco	Cisco Collaboration Ma	inagement		Q 🏟 Luke Skywalker
rview	Connector Manag	ement 5		CVP OAMP1
	Name	Status	Alerts	Overview > Context Service Connector
5	CVP_OAMP1	Active	None	Host 1 Host 2
ices •	CVP_OAMP2	Active	None	Host 3
<u>l</u>	CVP_OAMP3	Offline	Taken Down for maintainance	Host 4 Host 5
nitor ••	EIMWIM	Active	None	
	Finesse	Active	None	
N- port				
•	ive!			Sample Screer Actual version may dit

Under The Hood: Connectors Registered & Activated

Management Connector

- Installed on administration components, such as CVP OAMP or Finesse admin
- Responsible for obtaining machine account and password for the deployment
- Automatically renews
 password before expiration

Context Connector

- Installed on data components like CVP VXML server or Agent Desktop
- Responsible for data exchange
- Reports periodic status update of the connection



Tailoring Context Service

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Define Fields and their Data Privacy level

uluilu cisco	Cisco Collaboration Mana	gement			۵. ۵	Luke Skywalker Admin
Overview	Fields 5				l	Add Field
	Field Name	Field Type	Field Sets	Privacy	Encryption	Actions
*	Account No	Single Line Text Box		PII	Yes	
Services •••	Request Name	Search and select		Non-PII	No	
u	Request Description	Multiline Text		Non-PII	No	
Monitor	Activity Notes	Multiline Text'		Non-PII	Yes	
	Phone Number	Phone Number		PII	Yes	000
	live!				Sa	ample Screen al version may differ

Group Fields in Fieldsets and Map to Objects

ll. cisco	Cisco Collaboration Mana	agement		Q 🔅	Luke Skywalker Admin
Overview	Fieldsets 5			I	Add Fieldset
	Fieldset Name	Category	Fieldset Description		Actions
	Sales India	Activity	Group of fields representing sales related information		
Services •••	Analytics	Activity	Usage analytics related information		•••
Ш	Marketing	Customer	Sales and Marketing related set of fields	dµ	•••
Monitor	Billing	Request	Billing and Account related fields	<i>d</i>	•••
	Sales USA	Activity	Regional Sales Fields - USA		
Cisc	olive!		BRKCCT-1005 © 2015 Cisco		mple Screen I version may differ

Custom integrations

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Scenario

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Simple Integration Interface

Java and JS SDK

- Provides easy to use interface to read, write, update or look up data
 - encryptAndCreate (object)
 - encryptAndUpdate (object)
 - getAndDecrypt (ID)
 - searchAndDecrypt (unencryptedFields)
 - lookupCustomer (hashedData)
 - Etc.
- Performs several tasks under the hood

Gadget Control Interface

- Control Context Service gadget via another gadget in the Finesse container
 - showPodById (ID)
 - showPodBySearchQuery (searchQuery)
- More to come in future
 - Part of Gadget code
 - Delivered from the cloud

Not So Secret Sauce behind the SDK





Determine privacy Encrypt PII, Encrypted Data

Create objects

Create client keys

Request keys from KMS

Create & Encrypt SCR with KMS

Bind keys to resources

PII Hashes for Customer

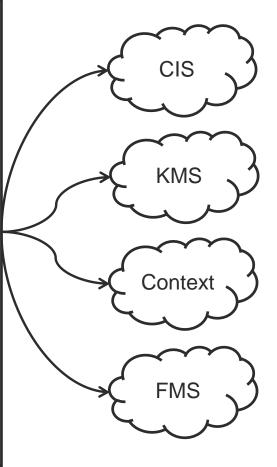
Error management

Authentication & Authorization

Manage workgroup access

Client Registration

Status reporting

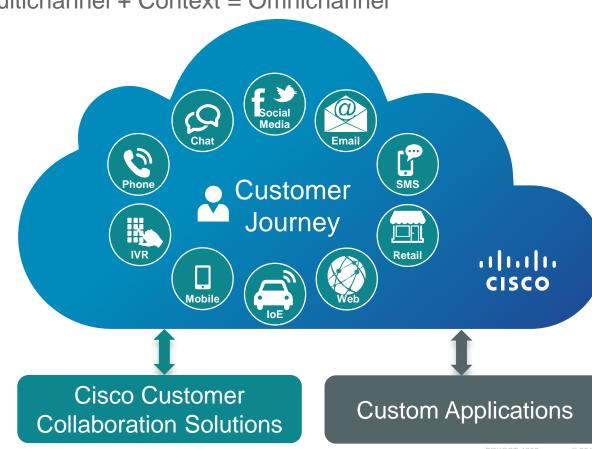




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Context Service

Multichannel + Context = Omnichannel



Deliver Omnichannel Seamlessly

- ✓ Out-of-the-box Cisco solution feature
- Enables a complete view of the customer journey
- ✓ Easy to use and adapt to any business model
- ✓ Open interfaces enable custom applications
- ✓ Better informed agents provide superior experience

Participate in the "My Favorite Speaker" Contest

Promote Your Favorite Speaker and You Could Be a Winner

- Promote your favorite speaker through Twitter and you could win \$200 of Cisco Press products (@CiscoPress)
- Send a tweet and include
 - Your favorite speaker's Twitter handle @vikramc1
 - Two hashtags: #CLUS #MyFavoriteSpeaker
- You can submit an entry for more than one of your "favorite" speakers
- Don't forget to follow @CiscoLive and @CiscoPress
- View the official rules at http://bit.ly/CLUSwin

Complete Your Online Session Evaluation

- Give us your feedback to be entered into a Daily Survey Drawing. A daily winner will receive a \$750 Amazon gift card.
- Complete your session surveys though the Cisco Live mobile app or your computer on Cisco Live Connect.



Don't forget: Cisco Live sessions will be available for viewing on-demand after the event at CiscoLive.com/Online



Continue Your Education

- Demos in the Cisco campus
- Walk-in Self-Paced Labs
- Table Topics
- Meet the Engineer 1:1 meetings
- Related sessions

References

- http://www.thoughtsoncloud.com/2015/04/manufacturers-making-major-commitment-to-cloud
- <u>http://www.americanbanker.com/news/bank-technology/banks-ramp-up-cloud-adoption-holdouts-cite-hands-on-control-1073145-1.html</u>
- <u>http://www.thoughtsoncloud.com/2015/04/the-united-states-of-cloud-saves-state-and-local-governments-millions-of-dollars</u>
- <u>http://www.datamation.com/cloud-computing/financial-services-and-cloud-computing-can-indeed-work-together.html</u>
- <u>http://www.himssanalytics.org/research/AssetDetail.aspx?pubid=82160&tid=127</u>

Thank you



CISCO TOMORROW starts here.