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Implementacija CISCO IPCCX-a u kompanijama Call Centre d.o.o i Elektrokrajina a.d

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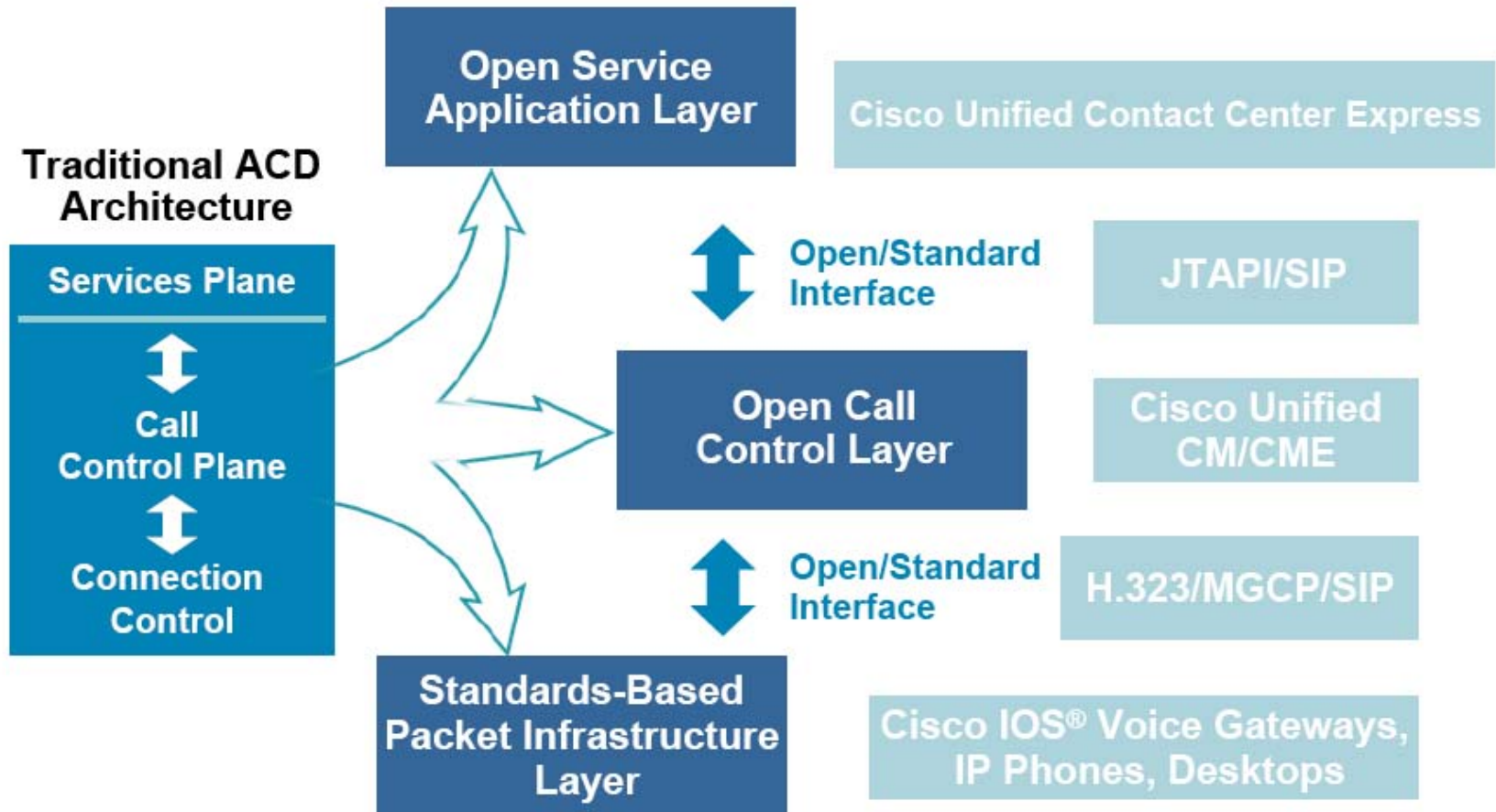


- **Pregled Arhitekture**
- **Softverske Komponente Unified CCX-a**
- **Unified CCX Tok Poziva**
- **CCX u Call Centre d.o.o**
- **CCX u Elektrokrajini a.d**
- **Zaključak**

Arhitektura Contact Center Express-a



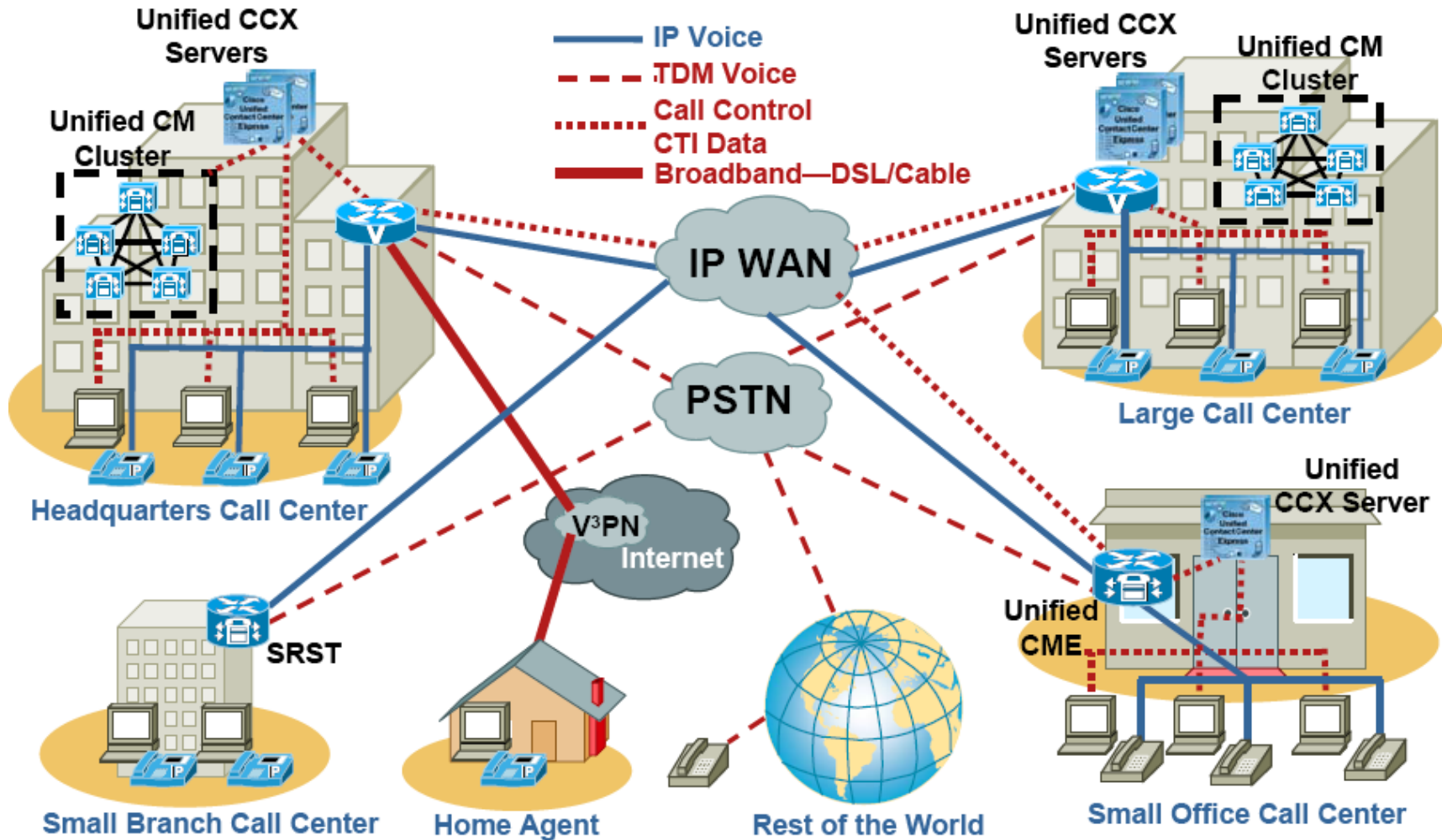
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Contact Center Express



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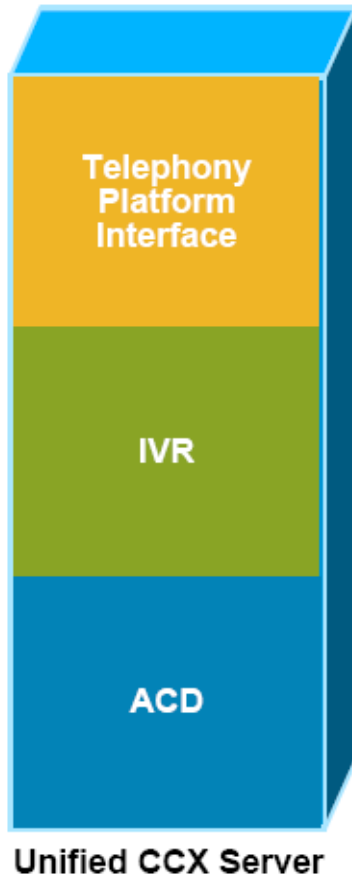


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Komponente Unified CCX servisa



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- **Telephony Platform Interface**
Obezbjeđuje interfejs telefonskoj platformi za upravljanje *voice* pozivima.
- **IVR - Interactive Voice Response**
Poboljšava subjektivni osjećaj korisnika
Omogućava automatski servis za korisnika
- **ACD - Automatic Call Distributor**
Obezbjeđuje inteligenciju za upravljanje/stavljanje u red čekanja dolazne pozive
Podržava odlazne pozive za marketinške kampanje

Komponente Unified CCX servisa



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Telephony Platform Interface

- Telephony Platform Interface

Obezbjeđuje interfejs za telefonsku platformu da izvrši kontrolu poziva

Podržane platforme: Unified CM i Unified CME

Podržani interfejsi: JTAPI za Unified CM i SIP za Unified CME

Telefonska platforma:

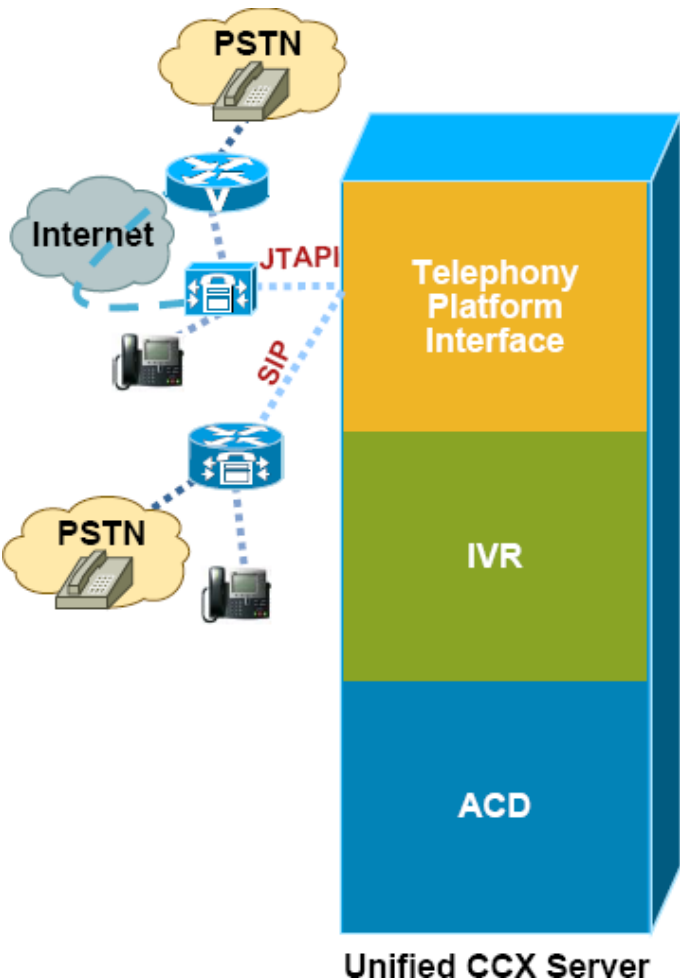
Obezbjeđuje IP PBX funkcionalnosti za kontrolu poziva

Podržava redundantne/cluster opcije (samo Unified CM)

Omogućava *voice mail* integracije

Upravlja *voice gateway*-ima i IP telefonima

Podešavanje dial-plana za ograničavanje i dozvoljavanje poziva

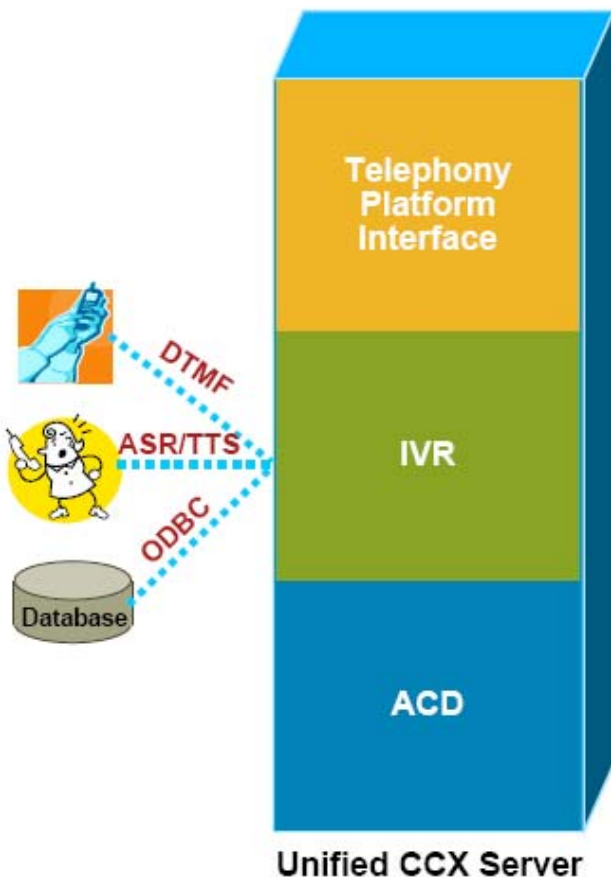


Komponente Unified CCX servisa



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IVR



- Automatski servisi

puštanje i prikupljanje podataka

Pozivaoc unosi DTMF preko telefonske tastature
Sistem generiše izlaz koristeći prompt-ove prikupljene od korisnika ili “prompt” step-ove

Govorne tehnologije (opciono)

Pozivaoc može napraviti unos podataka govorom u telefon preko ASR-a

Sistem generiše izlaz koristeći TTS

Podržani audio kodeci: G.711 i G.729

- Integracija IVR-a sa korisničkom bazom podataka

Podrška za sve ODBC kompatibilne baze

Dozvoljava klijentima da naprave konekciju na bazu koristeći db korake kroz skriptu

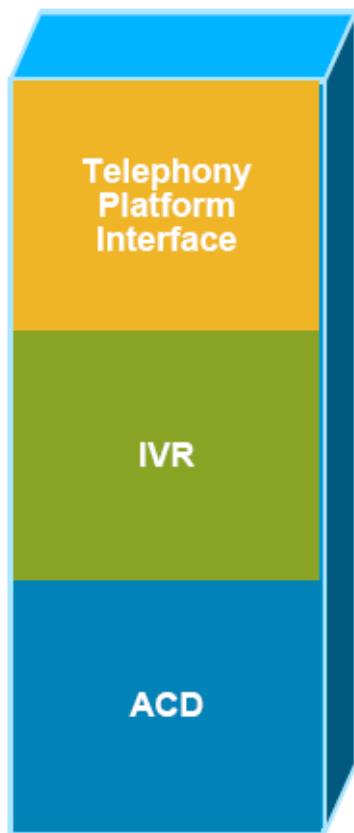
Omogućava rutiranje poziva na osnovu podataka iz baze

Komponente Unified CCX servisa



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ACD - Automatic Call Distributor



Unified CCX Server

- **Resource & Contact Manager**

Prati stanje agenta i prosljeđuje dolazni poziv do slobodnog agenta

Na osnovu unesenih podataka korisnika, poziv se prosljeđuje do najpogodnijeg agenta za datog korisnika

Stavlja pozive u red čekanja, na osnovu sposobnosti i kompetencije agenta, te prioriteta korisnika

Prosljeđuje i prikazuje podatke vezane za korisnika na desktop agenta

Omogućava agentu i supervizoru da vrše kontrolu poziva sa svog desktopa

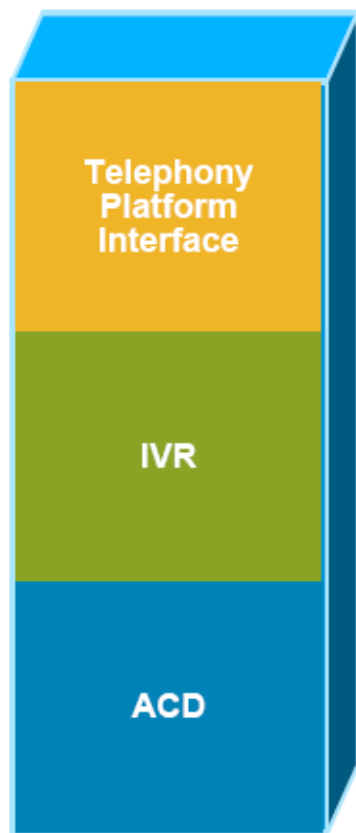
Omogućava izveštaje u realnom vremenu i izveštaje iz prošlosti na osnovu statistike poziva

Komponente Unified CCX servisa



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ACD - Automatic Call Distributor



Unified CCX Server

- Recording i Monitoring

Podržani su SPAN port i desktop monitori

Snimanje poziva na zahtjev može biti inicirano od agenta ili supervizora

Supervizor može da preslušava ili briše snimljene fajlove sa svog desktopa

Vrši praćenje poziva sa supervizorskog desktopa

Udaljeno supervizorsko praćenje poziva



- **Config Datastore**

Pohranjuje konfiguracije za aplikacije, trigere, grupe za kontrolu poziva, medija grupe itd.

Pohranjuje konfiguracione podatke za Unified CCX, vještine (skills), resurse, timove, CSQ-ove itd.

Čuva konfiguracije kampanje i korisničke kontakt podatke za svaku kampanju

- **Historical Datastore**

Čuva podatke iz prošlosti koje uglavnom koristi HRC -Historical Report Client.

Ovo je mjesto gdje se čuvaju svi podaci o pozivima, stanjima agenta i izvještaji o konekciji sa agentom.



- **Repository Datastore**
Čuva skripte, promptove, gramatiku i dokumente
- **Agent Datastore**
Obezbjeđuje podatke za sljedeće izvještaje u CAD:
Agentove ACD logove stanja,
Agentove statistike
Agentove logove poziva
Obezbjeđuje podatke za sljedeće izvještaje iz CSD:
Statistike za timove agenata
Stanje timova agenata
Logove poziva agenata
Logove ACD stanja agenata
Pohranjuje meta podatke za svaki zapis (agentov ID, ekstenziju, vrijeme i datum kada je poziv snimljen itd.) i ovi podaci se koriste kod Supervizora za pregledanje zapisa.

Unified CCX klientske komponente



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Cisco Agent Desktop

Agent State Control

Call Control Task Execution Chat Report

The screenshot displays the Cisco Agent Desktop interface. At the top, there are four main sections: Call Control, Task Execution, Chat, and Report. Below these, the interface is divided into several panels. The top panel shows the 'Call State' for a connected call. The middle panel is split into 'Screen Pop Data' and 'Call History'. The bottom panel shows the Cisco Systems, Inc. website with a search bar and navigation links. The status bar at the bottom indicates the agent's current state and call duration.

State	Calling#	Called#	Alerting#	Original Calling#	Original Called#	Duration
Connected	x2112	x2116	2116	2112	2116	00:10:22

Call State

Field	Data	Device	Type	Description	Duration
ANI	2112	8000	Rout...	Route Point 8000	00:00:00
DNIS	8000	1	CSQ	SalesQ	00:00:00
Layout	default	2116	Agent	Sixteen Agent	00:10:22
				Total	00:10:22

Screen Pop Data **Call History**

Cisco Systems, Inc

Work Sites Address http://www.cisco.com/

Worldwide [change] Log In | Register | About C

Search

Solutions Products & Services Ordering Support Training & Events Partner Central

Information for:

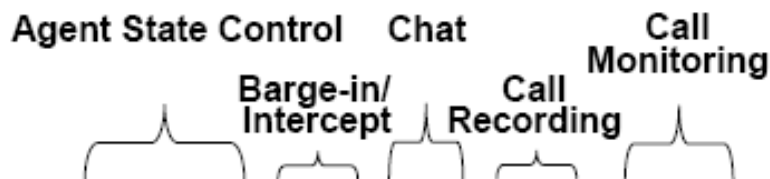
Agent Sixteen x2116 agent16 Talking 00:10:20 In Service 15:12

Unified CCX klientske komponente



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Cisco Supervisor Desktop



Cisco Supervisor Desktop

File View Intervention Tools Actions Help

Default

Skill Groups

- CSQs
 - SalesQ

Agents

- Default
 - Agents
 - Agent One x2101
 - Logs
 - Agent Zero x2100
 - Logs
 - Inbound
 - Supervisors
 - Agent One

Real Time Displays

Skill Groups - Skill Agent Statistics Display

Skill Groups - Skill Summary Statistics Display

Fact Service Queue	Agents Logged In	Agents in Talking	Agents Ready	Agents Not Ready	Agents in Work
SalesQ	2	1	0	1	0

Agents - Agent Active Call

Name	Number	Call Status	Duration	Skill Group
<N/A>	<N/A>	<N/A>	<N/A>	<N/A>

Agents - Enterprise Data Display

Field	Data
ANI	2102
DNIS	8000
Layout	default

Agents - Call History Display

Threshold	Device	Type
	8000	Route Point
	1	CSQ

Agent One agent1 In Service 10:26

Agenda



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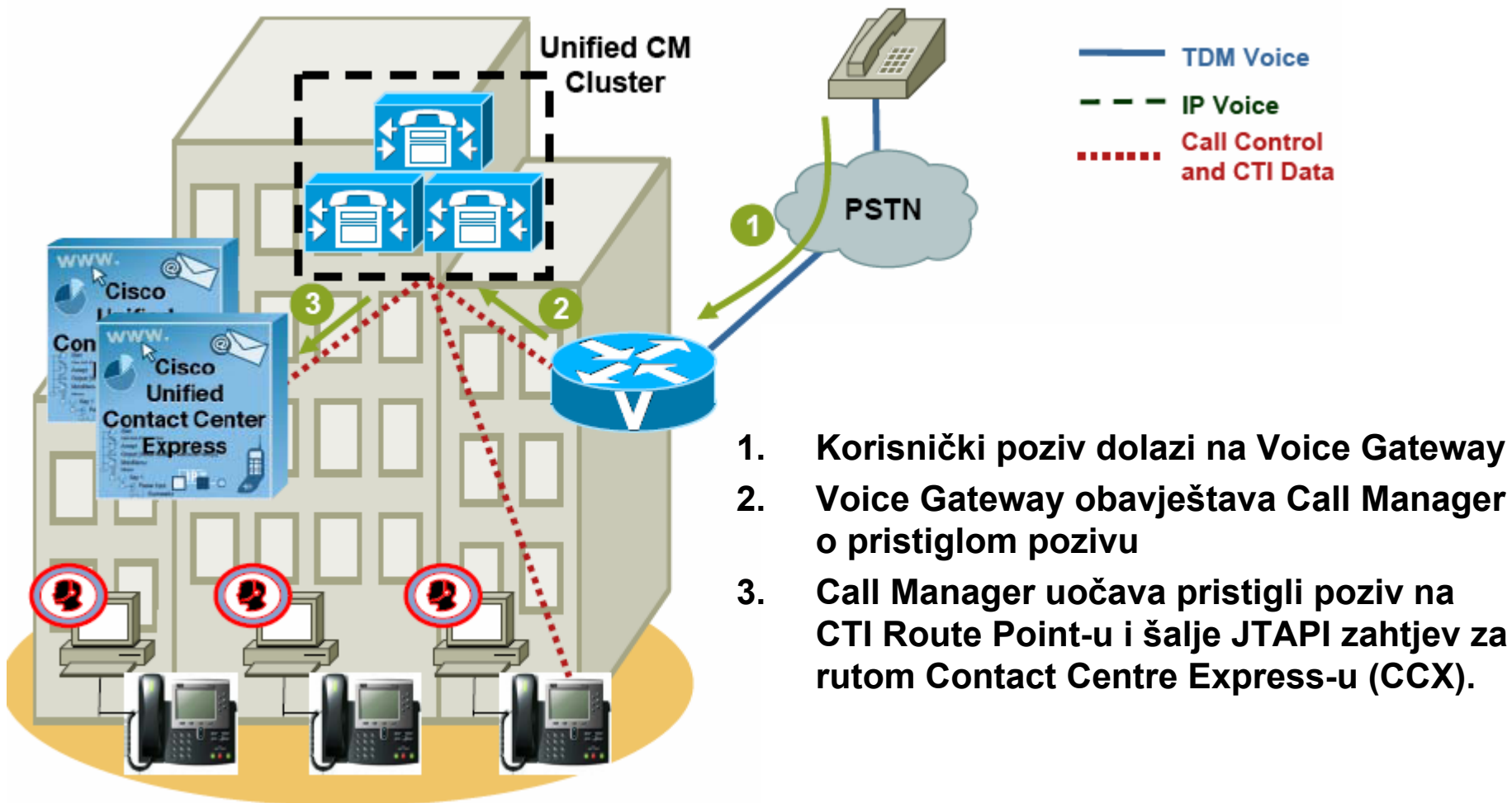
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Unified CCX tok poziva



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Dolazni poziv sa Unified CM

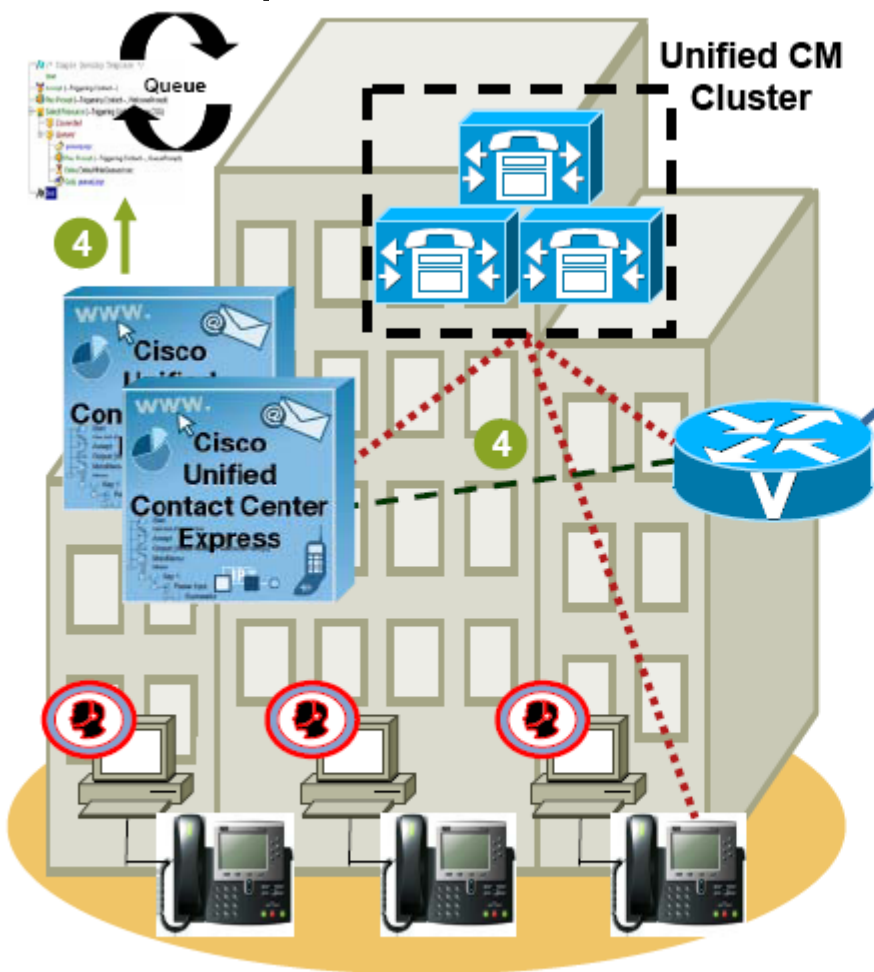


Unified CCX tok poziva



Cisco.com

Dolazni poziv sa Unified CM



4.

Na osnovu DN-a, CCX pronalazi odgovarajući JTAPI okidač (trigger) i šalje poziv do odgovarajućeg CTI porta iz grupe za kontrolu poziva asociirane tom JTAPI okidaču.

CCX mapira DN do unaprijed konfigurisane CCX skripte i pokreće je. Skripta odgovara na poziv i trigger-uje CCM da otvori RTP stream između porta na Voice Gateway-u i izabranog CTI porta.

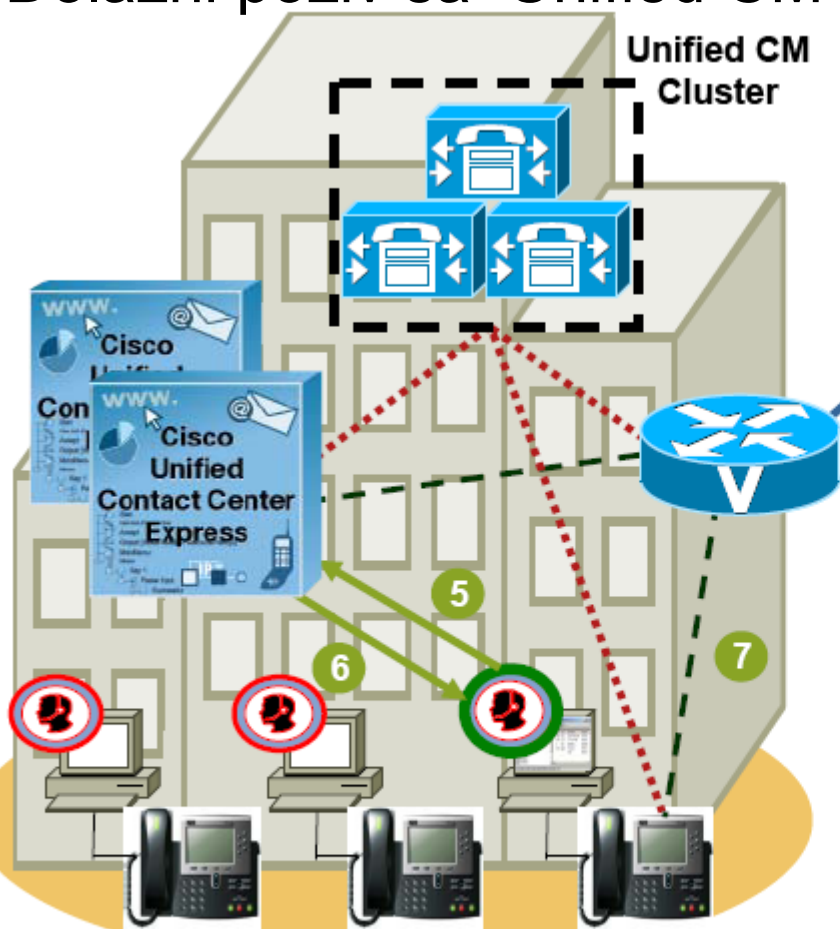
Skripta vrši prosljeđivanje poziva, pušta korisniku zvučni prompt (melodiju), pita korisnika za unos podataka, pretražuje bazu sa korisničkim podacima i postavlja ga u red za čekanje kod odgovarajućeg agenta.

Unified CCX tok poziva



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Dolazni poziv sa Unified CM



- TDM Voice
- - - IP Voice
- Call Control and CTI Data

5. Agent sa odgovarajućom vještinom (skill) je dostupan
6. CCX bira i rezerviše agenta, a ovo triggeruje da se izvrši transfer poziva do agentovog telefona i agentov telefon zvonj. U isto vrijeme CCX postavlja odgovarajući prozor na agentov desktop
7. Agent odgovara na poziv i CCX kompletira transfer sa CTI porta do agentovog telefona, a CM inicira uspostavljanje RTP VoIP data stream-a između agentovog telefona i porta na Voice Gateway-u, a potom se oslobađa CTI port na CCX serveru.



- **Pregled Arhitekture**
- **Softverske Komponente Unified CCX-a**
- **Tok Poziva u Unified CCX-u**
- **CCX u Call Centre d.o.o**
- **CCX u Elektrokrajini a.d**
- **Zaključak**

- O nama
- Šta radimo
- Usluge

Call Centre koristi **Cisco Unified Communications** platformu koja svojom raznolikošću i bogatstvom visoko kvalitetnih opcija ojačava organizacione prednosti i samim tim utiče na povećanje produktivnosti što ovo rješenje stavlja ispred proizvoda koje nudi konkurencija. Krajnji učinak su zadovoljni potrošači koji prepoznaju kvalitet koje ovo rješenje nudi.



The screenshot displays the Cisco Agent Desktop interface. At the top, a window titled "Reserved - Cisco Agent Desktop" contains a table of call records. The first row is highlighted in blue and shows a call with the following details:

State	Calling#	Called#	Alerting#	Original Calling#	Original Called#	Duration
Of...	(05)-2...	x550	550	052236316	550	00:00:08

Below the call record is a detailed view of the call data, divided into two sections. The left section is highlighted with a red box and contains the following data:

Field	Data
ANI	052236316
DNIS	555
Layout	default

The right section contains a summary of the call's path:

Device	Type	Description	Duration
555	Rout...	Route Point 555	00:00:00
1122	CTI P...	CTI Port 1122	00:00:04
2	CSQ	MALI_OGLASI_...	00:00:01
550	Agent	CCAgent01	00:00:08
	Total		00:00:13

The main interface below the call log features a search section with the following elements:

- Buttons for navigation: back, forward, stop, refresh, home.
- A "Work Sites" dropdown menu.
- Search filters: "Rub.", "Podr.", and "Ključne riječi za pretragu".
- Buttons for "Traži" (Search) and "Poništi" (Reset).
- Search results: "Ukupno pronađenih oglasa: 0".
- A search box for "FIRME" (Companies) with a "Traži" button.
- Text: "Zovi i pitaj, Menadžer Co." and "Pretraga po nazivu firme:".

The Windows taskbar at the bottom shows the Start button, taskbar icons for "Mali Oglasi", "Reserved - Cisco Aqe...", "Mali Oglasi - Microsoft In...", and "Microsoft Excel - blagajn...", along with the system clock showing 12:44 PM.

Šta nudi Agent Desktop?

- Informacije o korisniku
- Informacije o servisu koji je korisnik pozvao

The screenshot shows the Cisco Agent Desktop interface. At the top, there is a window title bar "Reserved - Cisco Agent Desktop". Below it is a toolbar with various icons. The main area displays a call log table with columns: State, Calling#, Called#, Alerting#, Original Calling#, Original Called#, and Duration. The first row is highlighted in blue and contains: Of..., (05)-2..., x550, 550, 052236316, 550, 00:00:08.

Field	Data	Device	Type	Description	Duration
ANI	052236316	555	Rout...	Route Point 555	00:00:00
DNIS	555	1122	CTI P...	CTI Port 1122	00:00:04
Layout	default	2	CSQ	MALI_OGLASI_...	00:00:01
		550	Agent	CCAgent01	00:00:08
			Total		00:00:13

Below the call log, there is a search section with fields for "Rub.", "Podr.", and "Ključne riječi za pretragu". There are "Traži" and "Poništi" buttons. A search result box on the right shows "FIRME" and "Ukupno pronađenih: 0". Below that, there is a "Pretraga po nazivu firme:" section with a search input field and a "Traži" button.

At the bottom of the screenshot, the Windows taskbar is visible with the Start button and several open applications: "Mali Oglasi", "Reserved - Cisco Age...", "Mali Oglasi - Microsoft In...", and "Microsoft Excel - blagajn...". The system clock shows "12:44 PM".

Šta nudi Agent Desktop?

- Dodatne informacije koje koriste administratori sistema

The screenshot displays the Cisco Agent Desktop interface. At the top, there's a window title bar 'Reserved - Cisco Agent Desktop'. Below it is a toolbar with various icons. A table shows call details for a specific call:

State	Calling#	Called#	Alerting#	Original Calling#	Original Called#	Duration
Of...	(05)-2...	x550	550	052236316	550	00:00:08

Below the call details is a table with columns: Field, Data, Device, Type, Description, Duration.

Field	Data	Device	Type	Description	Duration
ANI	052236316	555	Rout...	Route Point 555	00:00:00
DNIS	555	1122	CTI P...	CTI Port 1122	00:00:04
Layout	default	2	CSQ	MALI_OGLASI_...	00:00:01
		550	Agent	CCAgent01	00:00:08
			Total		00:00:13

The main interface area contains a search section with fields for 'Rub.', 'Podr.', and 'Ključne riječi za pretragu'. There are 'Traži' and 'Poništi' buttons. Below this, it says 'Ukupno pronađenih oglasa: 0'. To the right, there's a search box for 'FIRME' with the text 'Ukupno pronađenih: 0' and a 'Pretraga po nazivu firme:' section with another 'Traži' button. A red box highlights the search area.

Šta nudi Agent Desktop?

- Integracija web aplikacije
- Servis "Zovi i pitaj"

Cisco Agent Desktop

Instalacija na Terminal serveru

Manage Your Server
Server: TITAN

Search Help and Support Center

Managing Your Server Roles

Use the tools and information found here to add or remove roles and perform your daily administrative tasks.

Your server has been configured with the following roles:

- File Server**
File servers provide and manage access to files.
 - Manage this file server
 - Add shared folders
 - Review the next steps for this role
- Terminal Server**
A Terminal Services License Server has been found on the network.
The use of Internet Explorer is not restricted on this server. For information on how to increase security, click the Internet Explorer Enhanced Security Configuration link in the Tools and Updates section.
 - Review licensing requirements
 - Open Terminal Services Configuration
 - Open Terminal Services Manager
 - Review the next steps for this role

Tools and Updates

- Administrative Tools
- More Tools
- Windows Update
- Computer and Domain Name Information
- Internet Explorer Enhanced Security Configuration

See Also

- Help and Support
- Microsoft TechNet
- Deployment and Resource Kits
- List of Common Administrative Tasks
- Windows Server Communities
- What's New
- Strategic Technology Protection Program

Don't display this page at logon

Cisco Agent Desktop

Instalacija na Terminal serveru

The image shows two overlapping Windows Task Manager windows. The background window displays the 'Users' tab with a list of active and disconnected users. The foreground window displays the 'Processes' tab with a list of running processes, including 'agent.exe' for two active users.

Windows Task Manager (Background) - Users Tab

User	ID	Status	Client Name	Session
milenab	8	Disconnected		
miso	7	Disconnected		
stankica	1	Active	CC19	RDP-Tcp#413
draganato	2	Active	CC13	RDP-Tcp#416
boba	4	Disconnected		
CCAger05	5	Disconnected		
CCAger01	9	Disconnected		
sladjanadz	10	Active	CC21	
ccager03	3	Disconnected		
admin	12	Active	IT01	

Windows Task Manager (Foreground) - Processes Tab

Image Name	User Name	CPU	Mem Usage
agent.exe	stankica	00	4,844 K
agent.exe	sladjanadz	00	7,048 K
ccApp.exe	draganato	00	416 K
ccApp.exe	stankica	00	588 K
ccApp.exe	CCAger03	00	1,352 K
ccApp.exe	miso	00	6,204 K
ccApp.exe	sladjanadz	00	468 K
ccApp.exe	boba	00	428 K
ccApp.exe	milenab	00	176 K
ccApp.exe	CCAger05	00	288 K
ccApp.exe	CCAger01	00	288 K
ccApp.exe	admin	00	6,224 K
ccEvtMgr.exe	SYSTEM	00	3,396 K
ccSetMgr.exe	SYSTEM	00	4,156 K
csrss.exe	SYSTEM	00	3,464 K
csrss.exe	SYSTEM	00	3,764 K
csrss.exe	SYSTEM	00	4,624 K
csrss.exe	SYSTEM	00	4,188 K
csrss.exe	SYSTEM	00	3,964 K
csrss.exe	SYSTEM	00	4,280 K
csrss.exe	SYSTEM	00	4,416 K
csrss.exe	SYSTEM	00	3,472 K
csrss.exe	SYSTEM	00	3,548 K

Script Content:

```
Start
Accept (--Triggering Contact--)
Set pocetakPoziva = D[now].year + "-" + D[now].month + "-" + D[now].dom + " " + D[now].hod + ":" + D[now].min + ":" + D[now].sec
callingNumber = Get Call Contact Info (--Triggering Contact--, Calling Number)
Play Prompt (--Triggering Contact--, dobrodosliUsms)
zvezdica = Extended Get Digit String (--Triggering Contact--)
pocetak:
Play Prompt (--Triggering Contact--, posjedujeteTonskoBiranje)
Play Prompt (--Triggering Contact--, podraskaGprs)
Novo_Biranje_Proizvoda:
Menu (--Triggering Contact--, izborVrsteProizvoda)
rad_sa_bazom:
Set SMS_text = Keyword + " " + Content_ID
Set krajPoziva = D[now].year + "-" + D[now].month + "-" + D[now].dom + " " + D[now].hod + ":" + D[now].min + ":" + D[now].sec
DB Write : resource: IVR_push, database: smsContent_odbc
DB Release : resource: IVR_push
odjava:
daljeNarucivanje = Extended Get Digit String (--Triggering Contact--)
end:
Terminate (--Triggering Contact--)
End
```

Name	Type	Value	Attributes
Content_ID	String	""	Parameter
Keyword	String	""	Parameter
Phone_number	String	""	Parameter
Product_ID	int	0	Parameter
SMS_text	String	""	Parameter
brojIgriceKojiStel...	final Prompt	P[F03.wav]	
brojKojiSteUnijeli	final Prompt	P[phone_number...]	
brojMelodijeKoji...	final Prompt	P[C03.wav]	
brojMobTel	Prompt	P[]	Parameter
brojProizvoda	Prompt	P[]	Parameter
brojRealTonaKoji...	final Prompt	P[E03.wav]	
broiSlikeKoiuStel...	final Prompt	P[A03.wav]	

Step 1 / 347 | Ln 1 / 21 | Menadzer_IPCCX_Profile | CRSAdmin

Content Delivery

- servis za isporuku multimedijalnog sadržaja za vaš mobilni telefon

The screenshot shows the Cisco Customer Response Solutions Editor interface. The main window displays a script for 'loto i bingo' with the following logic:

```

    Successful
    Timeout
    Unsuccessful
    Switch String ( unesenaVrijednostZaBiranjeLotaIIBinga )
    bingo
    unos_broja_kartice:
    uneseniBrojBingoKartice = Extended Get Digit String (--Triggering Contact--)
    Successful
    /* provjera unosa broja bingo kartice */
    brojBingoKartice = Create Generated Prompt number (uneseniBrojBingoKartice, false)
    potvrda_unosa:
    Play Prompt (--Triggering Contact--, uneseniBrojJe)
    Play Prompt (--Triggering Contact--, brojBingoKartice)
    potvrdaUnosa = Extended Get Digit String (--Triggering Contact--)
    Successful
    Set brojZaPotvrduUnosa = potvrdaUnosa
    If (brojZaPotvrduUnosa != 2) Then
    True
    False
    Timeout
    Unsuccessful
    
```

Below the script editor is a table of variables:

Name	Type	Value	Attributes
bingoKolo	int	0	Parameter
bingo_connect	final String	"1"	
brojBingoKartice	Prompt	P[]	Parameter
brojDobitaka	int	0	Parameter
brojKolaBinga	Prompt	P[]	Parameter
brojNagrada	Prompt	P[]	Parameter
brojZaPotvrduUn...	int	0	Parameter
cestitamo	final Prompt	P[Cestitamo.wav]	
cetvrtiBroj	Prompt	P[]	Parameter
cetvrti_Broj	int	0	Parameter
daPotvrдитеVasU...	final Prompt	P[potvrdaUnosa....	
clan	int	0	Parameter

At the bottom of the editor, the status bar shows: Step 1 / 116 | Ln 1 / 37 | Menadzer_IPCCX_Profile | CRSAdmin | 15.24MB of 95.31MB

Loto i bingo

- Provjera rezultata za igre na sreću (loto i bingo)

Script Editor

The screenshot displays the Cisco Customer Response Solutions Editor interface. The main window shows a script titled "glavniMeni:" with the following logic:

- Menu (--Triggering Contact--, FILE[C:\Program Files\wfvavvid\Prompts\user\en_US\najave\najava.wav])
- Dnevni tarot horoskop
- If (D[now].date<10) Then
- Unos horoskopskog Znaka:
- brojZnaka = Get Digit String (--Triggering Contact--)
- Successful
- If ((brojZnaka == "01"))|(brojZnaka == "02"))|(brojZnaka == "03"))|(brojZnaka == "04"))|(brojZnaka == "05"))|(brojZnaka == "06"))|(brojZnaka == "07"))|(brojZnaka == "08"))|(brojZnaka == "09"))|(brojZnaka == "10"))
- Set horoskopskiZnak = brojZnaka + ".wav"
- Play Prompt (--Triggering Contact--, P["Opcija 2 Dnevni tarot horoskop"+date+" "+horoskopskiZnak])
- povratakUGlavniMeni = Get Digit String (--Triggering Contact--)
- Timeout
- Unsuccessful
- Terminate (--Triggering Contact--)
- End

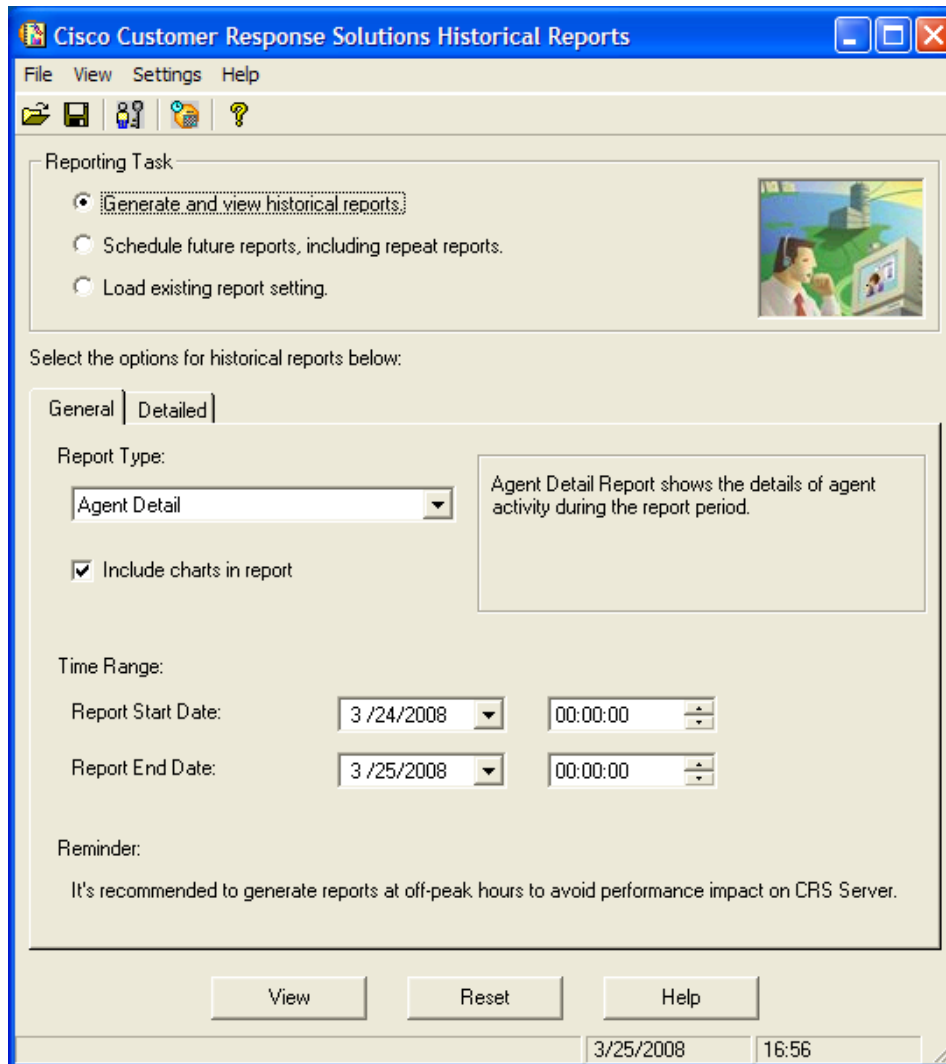
Below the script editor, a table lists parameters used in the script:

Name	Type	Value	Attributes
brojZnaka	String	""	Parameter
buducnost	Prompt	P[]	Parameter
date	String	""	Parameter
horoskopskiZnak	String	""	Parameter
jiDjing	Prompt	P[]	Parameter
ljubavMuskarci	Prompt	P[]	Parameter
ljubavZene	Prompt	P[]	Parameter
nazivFajla	String	""	Parameter
posaoMuskarci	Prompt	P[]	Parameter
posaoZene	Prompt	P[]	Parameter
povratakUGlavni...	String	""	Parameter
proslost	Prompt	P[]	Parameter

The word "Horoskop" is displayed in large black text on the right side of the interface.

Step 1 / 113 | Ln 1 / 26 | Menadzer_IPCCX_Profile | CRSAdmin | 14.26MB of 95.31MB

Historical Reports



Cisco Customer Response Solutions Historical Reports

File View Settings Help

Reporting Task

- Generate and view historical reports.
- Schedule future reports, including repeat reports.
- Load existing report setting.

Select the options for historical reports below:

General | Detailed

Report Type:

Agent Detail

Include charts in report

Time Range:

Report Start Date: 3 /24/2008 00:00:00

Report End Date: 3 /25/2008 00:00:00

Reminder:

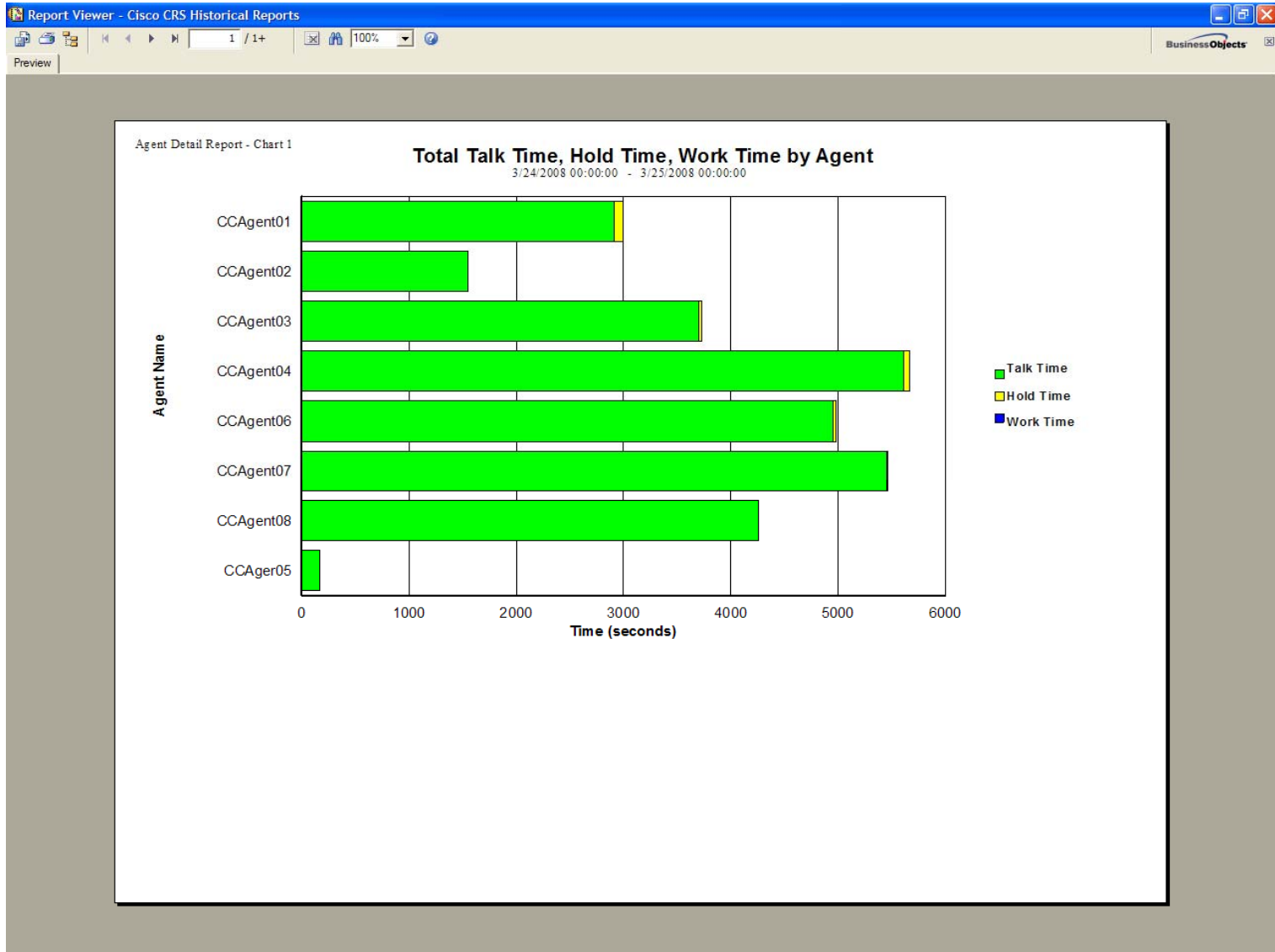
It's recommended to generate reports at off-peak hours to avoid performance impact on CRS Server.

View Reset Help

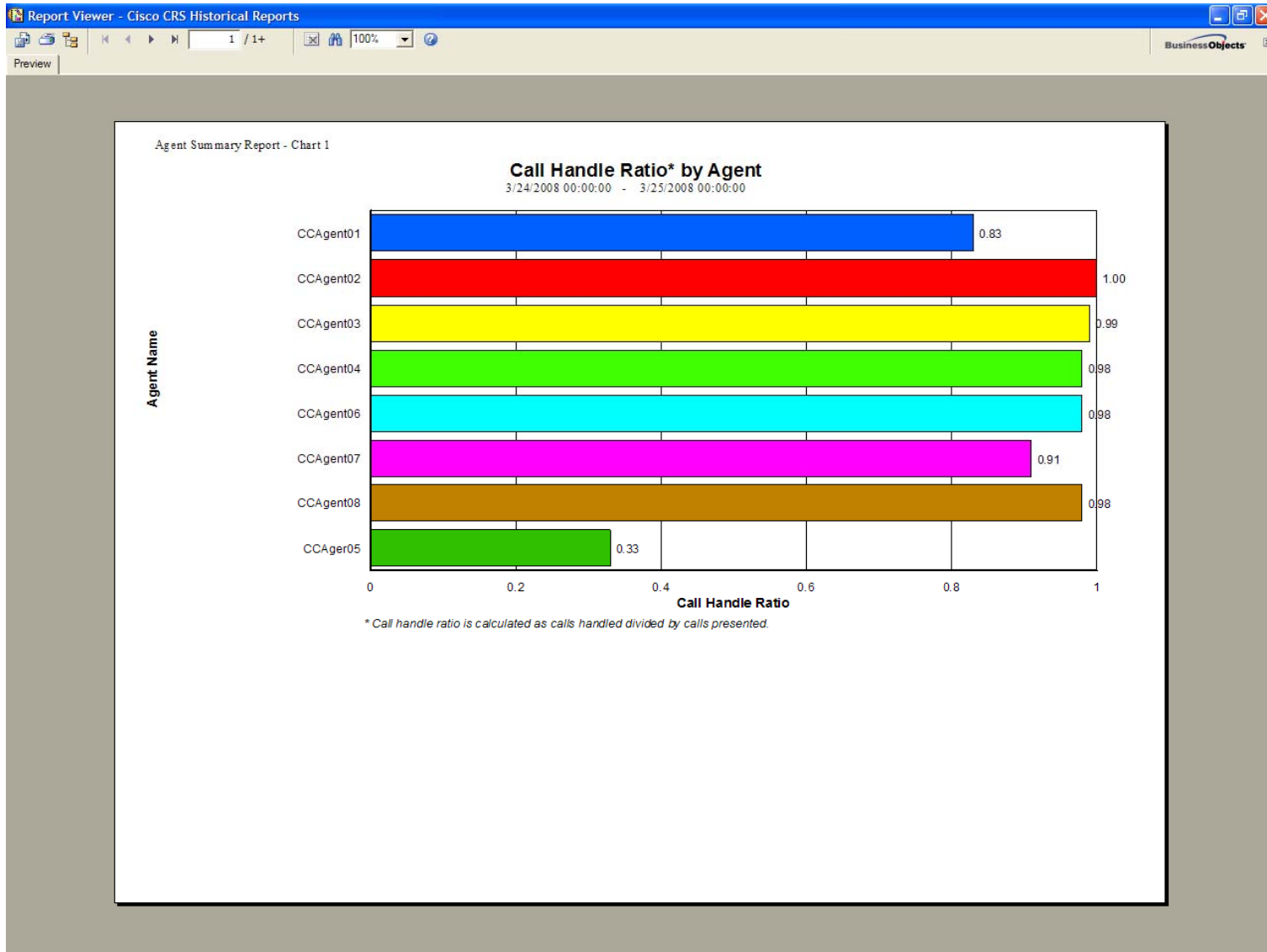
3/25/2008 16:56

Agent Detail Report shows the details of agent activity during the report period.

Historical Reports



Historical Reports





- **Pregled Arhitekture**
- **Softverske Komponente Unified CCX-a**
- **Tok Poziva u Unified CCX-u**
- **CCX u Call Centre d.o.o**
- **CCX u Elektrokrajini a.d**
- **Zaključak**

Korištenje web aplikacije u Cisco Agent-u

Cisco.com

The screenshot displays the Cisco Agent Desktop environment. At the top, a call log window shows details for a call with ANI 51335559, DNIS 100, and a duration of 00:00:09. Below this, a web browser window is open to 'CALL CENTAR WEB', featuring a 'call center' banner and a 'powered by' logo. The main interface is divided into several sections:

- Search and Call Information:** Fields for 'Naplatni broj' and 'Naziv potrošača' with 'Pretraži' and 'Trenutni poziv' buttons.
- Customer Data Table:** A table with columns for 'Period', 'Mjesto', 'ED Broj', 'Naziv MM', 'Ulica MM', 'Br. Brojla', 'K...', 'Tar. Grupa', 'Pret.Datum Ocitanja', and 'Datum Ocitanja'. It lists monthly records for 'VREBAC ZORAN' from February 2008 to April 2007.
- Customer Details Panel:** A panel on the left showing details for 'PotNpb 101108600', 'PotNaziv VREBAC ZORAN', 'Adresa MAJKE JEVROSIME 0 14-135', and other call-related information.
- System Status Bar:** At the bottom, it shows 'IP CALL CENTAR AGENT 16 | x136 | CCAgent16 | Reserved 00:00:13 | In Service | 14:33'.



- **Oracle JDeveloper**
- **MVC Technology (Model-View-Controller)**
- **AJAX**
- **JSF (Java Server Faces),**
- **ADF Faces (Oracle application development framework Faces) (Oracle-ove jsf - komponente)**
- **ADF BC (Oracle application development framework Business Component)**

Razvojno okruženje - Oracle JDeveloper



Cisco.com

Oracle JDeveloper 11g Technology Preview 2 - appCC.jws : userinterface.jpr

File Edit View Search Navigate Run Debug Refactor Versioning Tools Window Help

Application Navigator: appCC, Projects, Application Resources, Data Controls, Recently Opened Files

Run Manager

Component Palette: ADF Faces, Common Components, Layout, Operations

Design View: browsePotrosac.jspx, CcPregledSituacije.xml, registerTelNpb.jspx

Design View Content:

Naplatni broj #{...}

Naziv potrošača #{...}

Pretraži Trenutni poziv

#{...PotNpb.label}	#{...PotNaziv.label}	#{...Adresa.label}
#{...PotNpb}	#{...PotNaziv}	#{...Adresa}
#{...PotNpb}	#{...PotNaziv}	#{...Adresa}
#{...PotNpb}	#{...PotNaziv}	#{...Adresa}

Click to select Table - table3

Messages: Running: Embedded OC4J Server - Log

```
at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:675)
at java.lang.Thread.run(Thread.java:595)
2008.03.25 13:38:21 oracle.adfinternal.view.faces.model.binding.CurrencyRowKeySet _computeCurrentRowKey
SEVERE: Rowkey does not have any primary key attributes. Rowkey:oracle.jbo.Key[] table:oracle.jbo.server
2008.03.25 13:38:25 oracle.adfinternal.view.faces.model.binding.CurrencyRowKeySet _computeCurrentRowKey
SEVERE: Rowkey does not have any primary key attributes. Rowkey:oracle.jbo.Key[] table:oracle.jbo.server
```

Cisco script editor

Prosljeđivanje parametara web aplikaciji iz Cisco CallCenter-a



Cisco.com

The screenshot displays the Cisco Customer Response Solutions Editor interface. The main window shows a script for a resource named 'Next' in a database 'cc'. The script includes several steps: Start, Add Comment, Accept, Get Call Contact Info, Play Prompt, DB Write, DB Release, Select Resource, Connected (with Set user ID and Set user ID Document), Queued, and Terminate. Comments in the script describe the actions, such as adding the calling number to the database and writing agent data.

Name	Type	Value	Attributes
CRSResource	User	null	
callCenter	String	"ELEKTROKRAJIN..."	Parameter
callingNumber	String	""	Parameter
date	String	""	Parameter
muzikaNaCekanju	final Prompt	P[Dnevni Rezim 2...	
pozdravnaPoruka	final Prompt	P[Dnevni Rezim 1...	
userID	String	""	Parameter
userIDDocument	Document	null	Parameter

Prosljeđivanje poziva



Cisco.com

Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://127.0.0.1:8988/cc/faces/browsePotrosac.jsp?_adf.winId=1695146210_29&_adf.ctrl-state=1695146210_28&br

business

Imenik V1.0 - Lanaco... Zahtjevi 1.0 - Lanaco... Oracle Enterprise Ma... Call Centar Application EK - Oracle Enterpris... LANACO Interni Portal CC EK Oracle BI Publisher E...

business - Google Search http://127.0.0.1:8988/cc/faces/browsePotrosac.jsp?_adf.winId=1695146210_29&_adf.ctrl-state=1695146210_28&br

powered by

call center

Naplatni broj

Naziv potrošača

Pretraži Trenutni poziv

PotNpb	PotNaziv	Adresa
101108600	VREBAC ZORAN	MAJKE JEVROSIME

PotNpb 101108600
PotNaziv VREBAC ZORAN
Adresa MAJKE JEVROSIME 0 14-135
SopOpis Banja Luka
PotDatPrij 1911.01.01
PotDatOdj

First Previous Next Last

Broj telefona 51200200
Vrijeme poziva 25.03.2008 u 01:47:38
Prihvatanje poziva
Kraj razgovora
Naziv agenta Nepoznat agent
Status poziva Cekanje do javljanja operatera

Registruj Tel.Broj sa NPB

Done

Obračuni Uplate Energetska kartica Finansijska kartica

Period	Mjesto	ED Broj	Pret. Datum Ocitanja	Datum Ocitanja	Naziv MM	Ulica MM	Br. Brojila	Kc
Novembar 2007.	78000 BANJA LUKA	101108600	04.11.2007	03.12.2007	VREBAC ZORAN	MAJKE JEVROSIME	1054542	1
Oktober 2007.	78000 BANJA LUKA	101108600	01.10.2007	04.11.2007	VREBAC ZORAN	MAJKE JEVROSIME	1054542	1
Septembar 2007	78000 BANJA LUKA	101108600	30.08.2007	01.10.2007	VREBAC ZORAN	MAJKE JEVROSIME	1054542	1
Avgust 2007.	78000 BANJA LUKA	101108600	31.07.2007	30.08.2007	VREBAC ZORAN	MAJKE JEVROSIME	1054542	1
Jul 2007.	78000 BANJA LUKA	101108600	29.06.2007	31.07.2007	VREBAC ZORAN	MAJKE JEVROSIME	1054542	1
Jun 2007.	78000 BANJA LUKA	101108600	31.05.2007	29.06.2007	VREBAC ZORAN	MAJKE JEVROSIME	1054542	1
Maj 2007.	78000 BANJA LUKA	101108600	30.04.2007	31.05.2007	VREBAC ZORAN	MAJKE JEVROSIME	1054542	1
April 2007.	78000 BANJA LUKA	101108600	30.03.2007	30.04.2007	VREBAC ZORAN	MAJKE JEVROSIME	1054542	1
Mart 2007.	78000 BANJA LUKA	101108600	01.03.2007	30.03.2007	VREBAC ZORAN	MAJKE JEVROSIME	1054542	1
Februar 2007.	78000 BANJA LUKA	101108600	02.02.2007	02.02.2007	VREBAC ZORAN	MAJKE JEVROSIME	1059823	1
Februar 2007.	78000 BANJA LUKA	101108600		01.03.2007	VREBAC ZORAN	MAJKE JEVROSIME	1054542	1
Januar 2007.	78000 BANJA LUKA	101108600	30.12.2006	02.02.2007	VREBAC ZORAN	MAJKE JEVROSIME	1059823	1

Javljanje operatera



Cisco.com

Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://127.0.0.1:8988/cc/faces/browsePotrosjac.jsp?_adf.winId=1695146210_34&_adf.ctrl-state=1695146210_33&br... buissnes

Imenik V1.0 - Lanaco... Zahtjevi 1.0 - Lanaco... Oracle Enterprise Ma... Call Centar Application EK - Oracle Enterpris... LANACO Interni Portal CC EK Oracle BI Publisher E...

business - Google Search http://127.0.0.1:8988/cc/faces/browsePotrosjac.jsp?_adf.winId=1695146210_34&_adf.ctrl-state=1695146210_33&br...&broj=51200200

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call center

Naplatni broj
Naziv potrošača
Pretraži Trenutni poziv

Period	Mjesto	ED Broj	Pret. Datum Očitjanja	Datum Očitjanja	Naziv MM	Ulica MM	Br. Brojila	Ko
Novembar 2007.	78000 BANJA LUKA	101108600	04.11.2007	03.12.2007	VREBAC ZORAN	MAJKE JEVROSIME	1054542	1
Oktoibar 2007.	78000 BANJA LUKA	101108600	01.10.2007	04.11.2007	VREBAC ZORAN	MAJKE JEVROSIME	1054542	1
Septembar 2007	78000 BANJA LUKA	101108600	30.08.2007	01.10.2007	VREBAC ZORAN	MAJKE JEVROSIME	1054542	1
Avrgust 2007.	78000 BANJA LUKA	101108600	31.07.2007	30.08.2007	VREBAC ZORAN	MAJKE JEVROSIME	1054542	1
Jul 2007.	78000 BANJA LUKA	101108600	29.06.2007	31.07.2007	VREBAC ZORAN	MAJKE JEVROSIME	1054542	1
Jun 2007.	78000 BANJA LUKA	101108600	31.05.2007	29.06.2007	VREBAC ZORAN	MAJKE JEVROSIME	1054542	1
Maj 2007.	78000 BANJA LUKA	101108600	30.04.2007	31.05.2007	VREBAC ZORAN	MAJKE JEVROSIME	1054542	1
April 2007.	78000 BANJA LUKA	101108600	30.03.2007	30.04.2007	VREBAC ZORAN	MAJKE JEVROSIME	1054542	1
Mart 2007.	78000 BANJA LUKA	101108600	01.03.2007	30.03.2007	VREBAC ZORAN	MAJKE JEVROSIME	1054542	1
Februar 2007.	78000 BANJA LUKA	101108600	02.02.2007	02.02.2007	VREBAC ZORAN	MAJKE JEVROSIME	1059823	1
Februar 2007.	78000 BANJA LUKA	101108600		01.03.2007	VREBAC ZORAN	MAJKE JEVROSIME	1054542	1
Januar 2007.	78000 BANJA LUKA	101108600	30.12.2006	02.02.2007	VREBAC ZORAN	MAJKE JEVROSIME	1059823	1

PotNpb 101108600
PotNaziv VREBAC ZORAN
Adresa MAJKE JEVROSIME 0 14-135
SopOpis Banja Luka
PotDatPri 1911.01.01
PotDatOdj
First Previous Next Last

Broj telefona 51200200
Vrijeme poziva 25.03.2008 u 01:47:38
Prihvatanje poziva 25.03.2008 u 01:50:35
Kraj razgovora
Naziv agenta Agent 12
Status poziva Poziv prhvacen
Registruj Tel.Broj sa NPB

Done

Prekid razgovora



Cisco.com

Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://127.0.0.1:8968/cc/faces/browsePotrosac.aspx?_adf.winId=1695146210_398_adf.ctrl-state=1695146210_388br

business

Imenik V1.0 - Lanaco... Zahtjevi 1.0 - Lanaco... Oracle Enterprise Ma... Call Center Application EK - Oracle Enterpris... LANACO Interni Portal CC EK Oracle BI Publisher E...

business - Google Search http://127.0.0.1:8968/cc/faces/browsePotrosac.aspx?_adf.winId=1695146210_398_adf.ctrl-state=1695146210_388br

powered by

call center

Naplatni broj:
Naziv potrošača:
Pretraži Trenutni poziv

PotNpb PotNaziv Adresa
No rows yet.

Obračuni Uplate Energetska kartica Finansijska kartica

Period	Mjesto	ED Broj	Naziv MM	Ulica MM	Br. Brojila	Kone	Tar. Grupa
No rows yet.							

PotNpb
PotNaziv
Adresa
SopOpis
PotDatPrij
PotDatOdj
First Previous Next Last

Broj telefona
Vrijeme poziva
Prihvatanje poziva
Kraj razgovora
Naziv agenta
Status poziva
Registruj Tel. Broj sa NPB

Done



Registrowanje telefona sa naplatnim brojem potrošača

Cisco.com

Mozilla Firefox

File Edit View History Bookmarks Tools Help

← → ↻ × 🏠 http://127.0.0.1 ↻ G buissnes 🔍

📄 Imenik V1.0 - Lanaco... 📄 Zahtjevi 1.0 - Lanaco... 📄 Oracle Enterprise Ma... >>

G business - Google Search × http://127.0...695146210_38 ×

* Naplatni broj

* Broj telefona

Zapamti

Done

Registrovani dolazni poziv



Cisco.com

Reserved - Cisco Agent Desktop

State	Calling#	Called#	Alerting#	Original Calling#	Original Called#	Duration
Of...	51335...	136	136	51335559	136	00:00:09

Field	Data	Device	Type	Description	Duration
ANI	51335559	100	Rout...	Route Point 100	00:00:00
DNIS	100	510	CTI P...	CTI Port 510	00:00:05
Layout	default	1	CSQ	ELEKTROKRAJINA	00:00:06
		136	Agent	AGENT 16 IP C...	00:00:09
			Total		00:00:20

Work Sites: CALL CENTAR WEB

powered by

call center

Naplatni broj:
 Naziv potrošača:
 Pretraži Trenutni poziv

Period	Mjesto	ED Broj	Naziv MM	Ulica MM	Br. Brojila	K...	Tar. Grupa	Pret.Datum Ocotanja	Datum Ocotanja
Februar 2008.	78000 BANJA LUKA	101108600	VREBAC ZORAN	MAJKE JEVROSIME	1054...	1	Domaeinstvo DT	31.01.2008	29.02.2008
Januar 2008.	78000 BANJA LUKA	101108600	VREBAC ZORAN	MAJKE JEVROSIME	1054...	1	Domaeinstvo DT	03.01.2008	31.01.2008
Decembar 2007.	78000 BANJA LUKA	101108600	VREBAC ZORAN	MAJKE JEVROSIME	1054...	1	Domaeinstvo DT	03.12.2007	03.01.2008
Novembar 2007.	78000 BANJA LUKA	101108600	VREBAC ZORAN	MAJKE JEVROSIME	1054...	1	Domaeinstvo DT	04.11.2007	03.12.2007
Oktober 2007.	78000 BANJA LUKA	101108600	VREBAC ZORAN	MAJKE JEVROSIME	1054...	1	Domaeinstvo DT	01.10.2007	04.11.2007
Septembar 20...	78000 BANJA LUKA	101108600	VREBAC ZORAN	MAJKE JEVROSIME	1054...	1	Domaeinstvo DT	30.08.2007	01.10.2007
Av gust 2007.	78000 BANJA LUKA	101108600	VREBAC ZORAN	MAJKE JEVROSIME	1054...	1	Domaeinstvo DT	31.07.2007	30.08.2007
Jul 2007.	78000 BANJA LUKA	101108600	VREBAC ZORAN	MAJKE JEVROSIME	1054...	1	Domaeinstvo DT	29.06.2007	31.07.2007
Jun 2007.	78000 BANJA LUKA	101108600	VREBAC ZORAN	MAJKE JEVROSIME	1054...	1	Domaeinstvo DT	31.05.2007	29.06.2007
Maj 2007.	78000 BANJA LUKA	101108600	VREBAC ZORAN	MAJKE JEVROSIME	1054...	1	Domaeinstvo DT	30.04.2007	31.05.2007
April 2007.	78000 BANJA LUKA	101108600	VREBAC ZORAN	MAJKE JEVROSIME	1054...	1	Domaeinstvo DT	30.03.2007	30.04.2007

PotNpb: 101108600
 PotNaziv: VREBAC ZORAN
 Adresa: MAJKE JEVROSIME 0 14-135
 SopOpis: Banja Luka
 PotDatPri: 1911.01.01
 PotDatO:

Broj telefona: 51335559
 Vrijeme poziva: 25.03.2008 u 02:29:18
 Prihvatanje poziva
 Kraj razgovora
 Naziv agenta: Nepoznat agent
 Status poziva: Ėe kanje do javljanja operatera

IP CALL CENTAR AGENT 16 | x136 | CCAgent16 | Reserved 00:00:13 | In Service | 14:33



- **Pregled Arhitekture**
- **Softverske Komponente Unified CCX-a**
- **Tok Poziva u Unified CCX-u**
- **CCX u Call Centre d.o.o**
- **CCX u Elektrokrajini a.d**
- **Zaključak**

- **Povećanje konkurentnosti**
 - Integrirane IP aplikacije i servisi povećavaju produktivnost i poboljšavaju customer care
 - Smanjeno vrijeme za dodavanje novih korisnika i servisa
 - Svi servisi su dostupni svim korisnicima bez obzira na lokaciju

- **“Return on Investment”**
 - Smanjenje troškova kod otvaranja novih lokacija
 - Kratkoročne i dugoročne uštede u administraciji



Q and A





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