



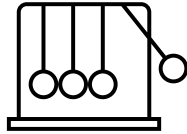
Využitie Oracle Cloud Infrastructure AI služieb pre zdravotníctvo

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Cloud Infrastructure



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Agenda



1. Telemedicína a CCW
2. Oracle Cloud Infrastructure
3. Využitie OCI AI služieb pre zdravotníctvo



Telemedicína, CCW,s.r.o. :

Telemedicína 1996->2025



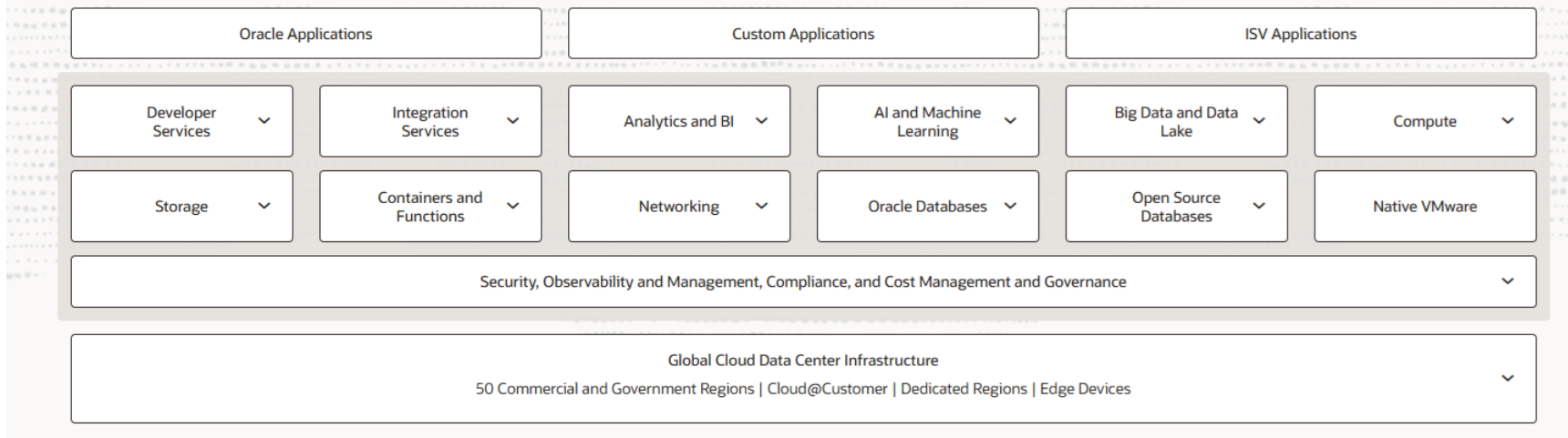
- ✓ GJH
- ✓ Novant Health New Hanover Regional Medical Center, Wilmington, N.C. , USA
- ✓ Katedra Telekomunikácií FEI STU BA
- ✓ H.323 protokol pre videokonferencie, telemedicínu
- ✓ Širokopásmové ATM siete
- ✓ Študenti FEI STU a študenti medicíny, čo majú spoločné

CCW,s.r.o.

- ✓ IT firma založená v roku 1992
- ✓ V roku 2025 20 zamestnancov, obrat 1,6 mil EUR
- ✓ Sme Oracle Partner so zameraním na Oracle Cloud Infrastructure a Siebel CRM
- ✓ Sme špecialisti na vývoj IT riešení v OCI cloude a na migráciu IT infraštruktúry a riešení do cloudu
- ✓ Cloud computingu sa venujeme 18 rokov
- ✓ Monit7 cloudové riešenie od roku 2007 zabezpečujúce zaručenú dodávku liekov a kritických zdravotníckych zásielok včas

Oracle Cloud Infrastructure

- ✓ Cloud novej generácie navrhnutý tak, aby hosťoval akúkoľvek aplikáciu rýchlejšie, bezpečnejšie a za menej peňazí.
- ✓ Distribuovaný cloud, ktorý môže byť kdekoľvek ho potrebujete
- ✓ Viac ako 150 služieb
- ✓ Multicloud, Public cloud, Hybrid cloud, Dedikovaný cloud





Požiadavka a výzva skvalitniť služby rýchlo rastúcej súkromnej kliniky pomocou objednávacjej komponenty

- ✓ Výzva: 20 FTE zamestnancov spravovali kalendáre 40 lekárov, 16 medicínskych centier
- ✓ Rôzne komunikačné kanály: telefón, email, sms, osobné objednávanie, whatsapp, messenger
- ✓ Nespokojní pacienti, nie vždy získali termín a kontakt
- ✓ Výsoké náklady na spravovanie , manuálne procesy a chybovosť
- ✓ Neprehľadnosť

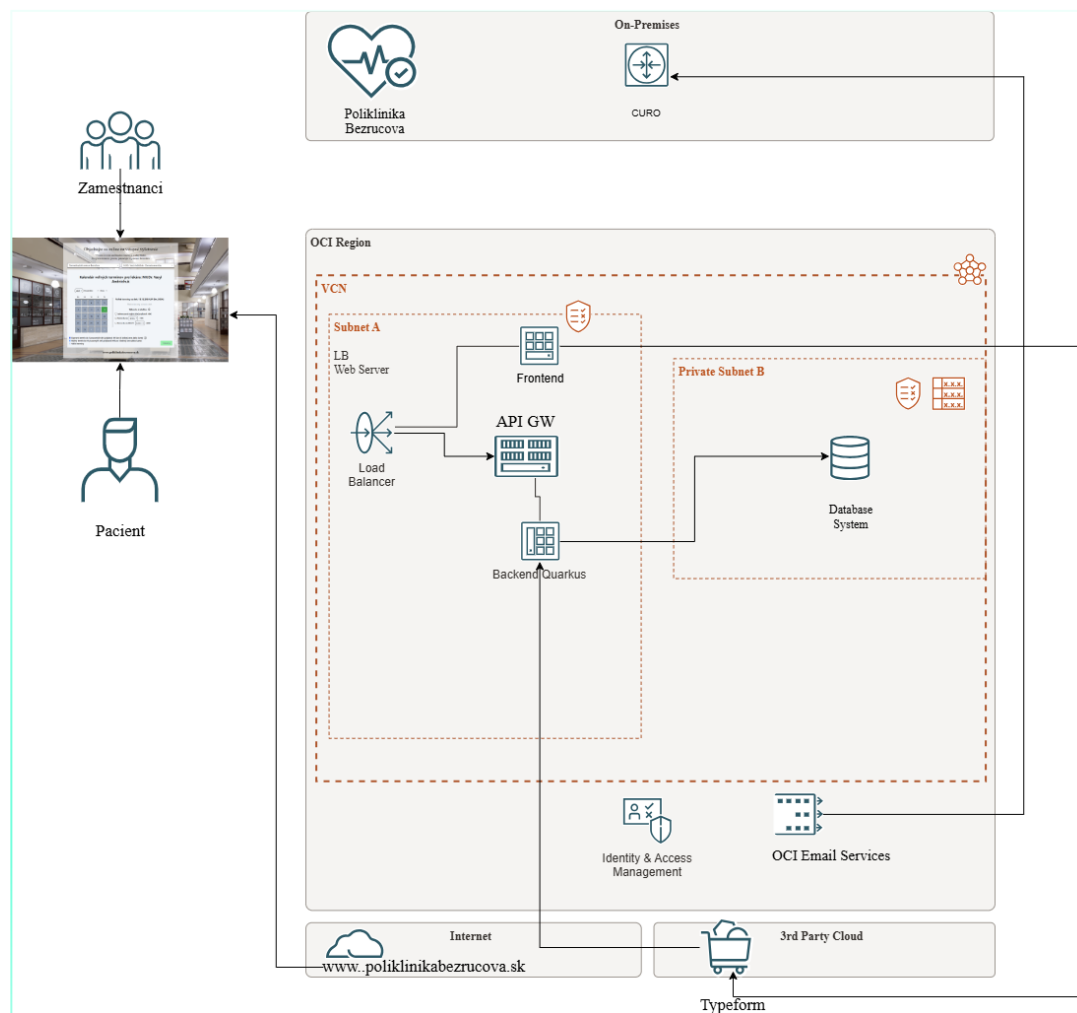


Odpoveď na výzvu

- ✓ Online pre rezerváciu termínov a nákup balíčkov starostlivosti
- ✓ Automatický prenos do interných IT systémov
- ✓ Dynamická cenotvorba na základe pravidiel a dát
- ✓ 1 FTE zamestnanec na administráciu
- ✓ Agilný CI/CD bez potreby nákupu IT infraštruktúry -> OCI konto s predplatenými kreditmi
- ✓ Vývoj využívajúci cloud služby OCI
- ✓ Čas do nasadenia 2 mesiace
- ✓ ROI Reporting
- ✓ genAI pre prioritizáciu pacientov a asistenciu



Odpoved' : OCI cloud





Využitie OCI AI pre zdravotníctvo



Využitie OCI AI pre zdravotníctvo

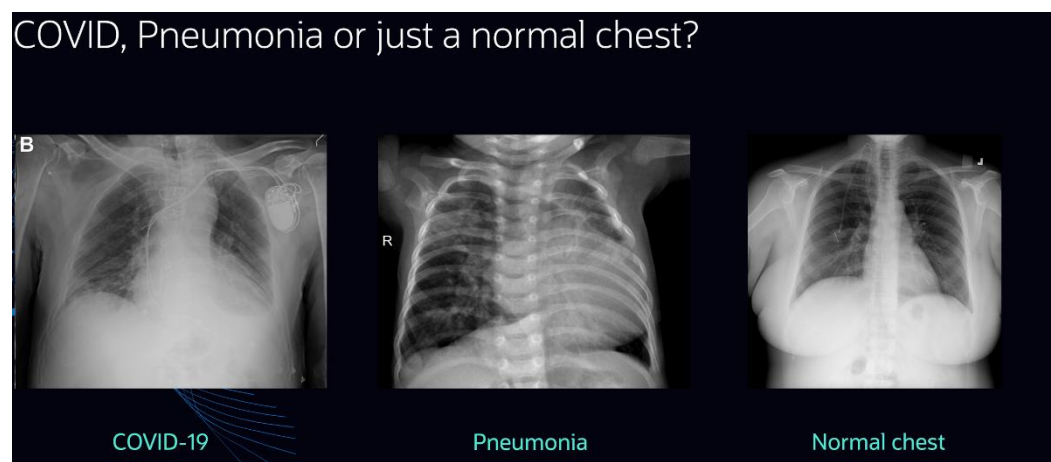
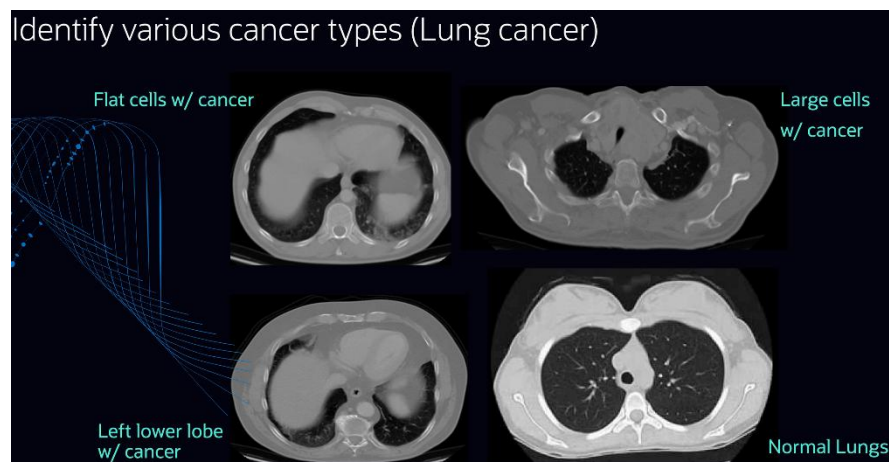
- ✓ Prečo práve Oracle Cloud Infrastructure a AI v zdravotníctve ?



- ✓ Dáta, údaje, dáta, dáta -> Autonómna Oracle databáza s podporou AI
- ✓ Cena
- ✓ Využitie, spracovanie -> Oracle Cloud Analytics
- ✓ Jediný poskytovateľ cloudu, ktorý má zdravotníctvo a zlepšenie zdravotnej starostlivosti pomocou cloudu ako prioritu -> OCI Healthcare NLP
- ✓ OCI AI + OCI DB = Gamechanger v zdravotníctve
- ✓ OCI je zameraný na používateľskú jednoduchosť s dôrazom na rýchle a praktické použitie AI
- ✓ Čo bolo v 2018 americké štúdie dokázali, je dnes v cloude realitou pre každého.

Využitie OCI AI pre zdravotníctvo

- ✓ **OCI AI Vision**
 - ✓ Detekcia rôznych druhov rakoviny na základe skenov X-ray a CT obrázkov
 - ✓ Detekcia Covidu na základe röntgenových snímok
 - ✓ Použité služby : OCI AI Vision,
 - ✓ , OCI Object Storage, OCI ML Applications, OCI Autonomous DB

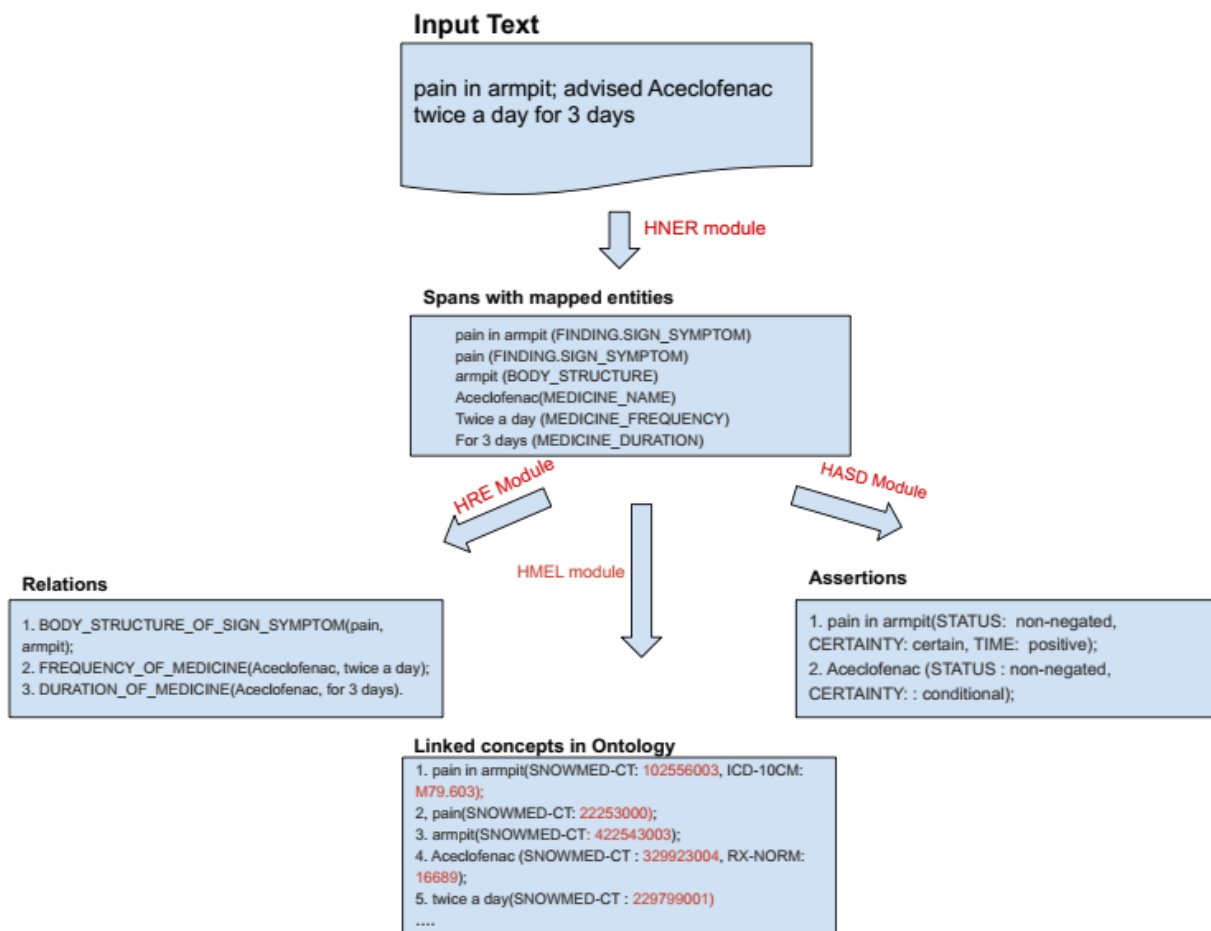


Využitie OCI AI pre zdravotníctvo

- ✓ **OCI Speech, OCI Language**
 - ✓ Nemocnice , ambulancie dostávajú hlasové správy od pacientov, zariadení obsahujúce kritické zdravotnícke informácie. Hlasová informácia je transformovaná do textu a pomocou OCI Language preložená do žiadaného jazyka.
- ✓ **OCI Language**
 - ✓ preklad
 - ✓ Analýza sentimentu
 - ✓ Klasifikácia textov
 - ✓ Extrácia kľúčových fráza
 - ✓ GDPR
 - ✓ [Healthcare NLP Models](#)
- ✓ **OCI Document understanding**
 - ✓ Extrakcia kľúčových informácií z dokumentov a dokumentácie
 - ✓ Urýchlenie pochopenia množstva zdravotných materiálov pre personál
- ✓ **AI Oracle Digital Assistance s SQL dialogovými schopnosťami a DB**
- ✓ **genAI chatbot s internými dokumentami**

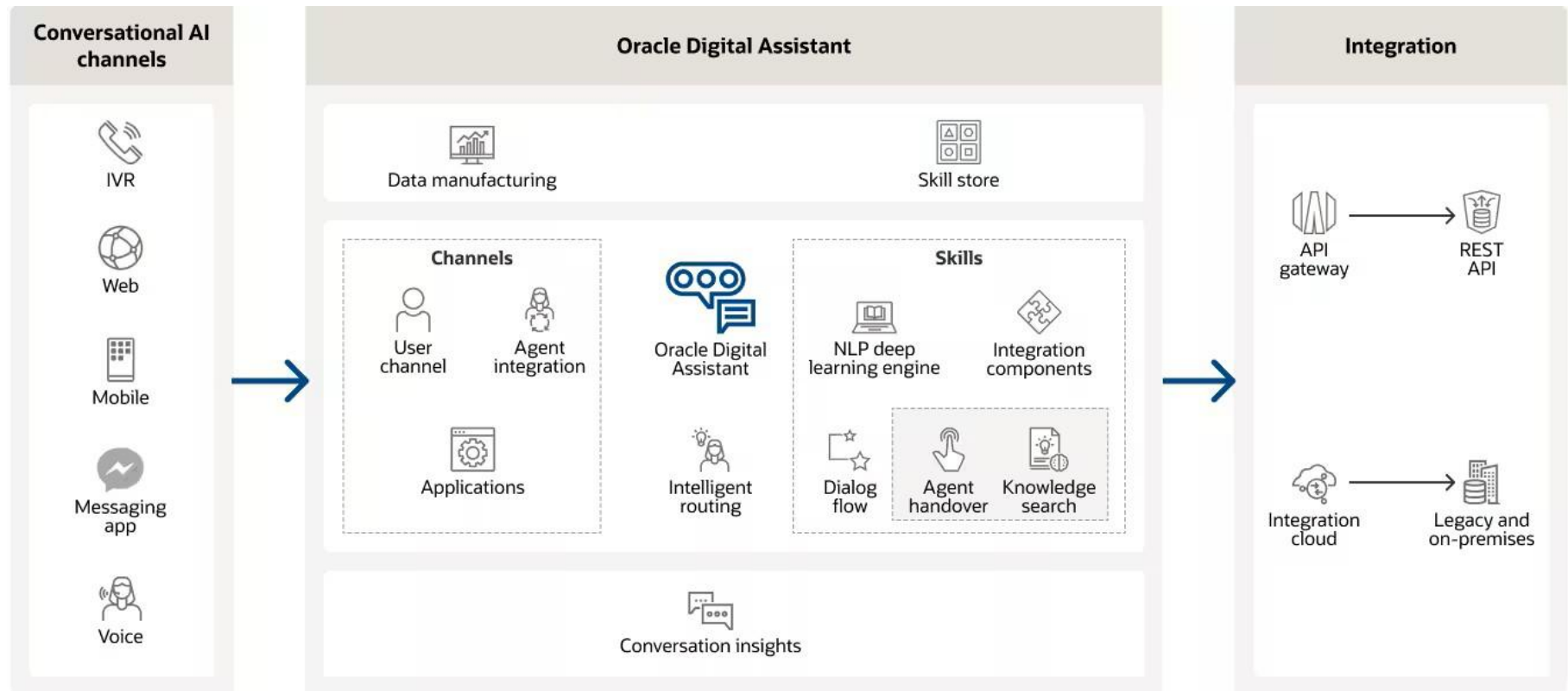
Využitie OCI AI pre zdravotníctvo

✓ Healthcare NLP Models





Oracle Digital Assistant



Využitie OCI AI pre zdravotníctvo

- ✓ Dialógom riadený Chatbot s 98% úspešnosťou v OCI využitím OCI Container Instances, API Gateway a Oracle Autonomous DB



The screenshot shows a chatbot interface for 'die Mobiliar'. The chatbot's name and a phone icon are at the top. The conversation flow is as follows:

- Chatbot: **Sind 3.4 V6?**
- User: **Ja**
- Chatbot: **Wählen Sie die Pannensache aus.**
- User: **Unfall**
- Chatbot: **Danke für Ihre Angaben.**
- Chatbot: **An welchem Standort befindet sich Ihr Fahrzeug?**
- User: **Magletschweg 3001, 9476 Weite
47104336, 9 484536**
- Chatbot: **Danke für Ihre Angaben.**
- Chatbot: **Wie viele Erwachsene sind dabei?**
- User: **2**
- Chatbot: **Sind Kinder dabei?**
- User: **Ja**
- Chatbot: **Anzahl?**
- User: **Mehr**
- Chatbot: **Benötigen Sie die Pannenhilfe sofort?**
- User: **Ja, sofort.** (selected)
- User: **Nein. Termin für später, bitte.**



CCW as Oracle partner has these BYC Offerings :

BYC Offering	Description	Duration
 Landing Zones implementation	OCI strategy and optimization ; landing zone design and build, workload migration and modernization – containerization and microservice adoption; DevOps modernization, Lift and Shift Migration, VMWare Workloads migration.	2-7 days
 Siebel CRM deployment to OCI	We create a new deployment of Siebel CRM in OCI or we can migrate your Siebel CRM from on premise to OCI using Siebel Cloud Manager. CCW can also design “Lift and Shift” migration from onprem to OCI. Updates to new version is seamless and easy.	4-6 weeks
 Oracle Digital Assistant Entry Pack	Design , configuration, training ,integration and deployment of the Oracle Digital Assistant (AI, genAI Chatbot) into OCI and integration with applications. Integration with OCI AI and generative AI services for upgrading the chatbot to highest industry level. Training for 20 intents, 5 workflows and 2 channels. Integration with 2 REST Webservices	2 weeks
 Oracle Digital Assistant Premium Pack	Training 50 intents, design and configuring 10 workflows, multichannel integration and 5 REST WebServices integration	5 weeks
 OCI Security Health Check	Assess your OCI security posture against best practices outlined in CIS benchmarks and receive Oracle Advisory how to close the security gaps	1-2 weeks
 OCI Cloud Native Development entry	We design and implement your workload natively in the cloud. No matter if you need backend microservice, front-end rich web client, leveraging genAI, IoT, DB processing.	4 weeks

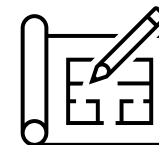


CCW as Oracle partner has these BYC Offerings :

BYC Offering	Description	Duration
 generative AI to boost business	Leveraging OCI genAI services to automate and boost business processes. Consulting, Analysis, design and implementation of the genAI usecases with Oracle Unlimited Apps.	21+ days

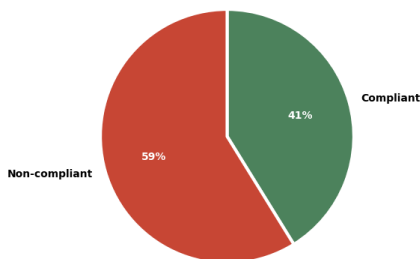


OCI Security Health Check Standard. How it goes ?

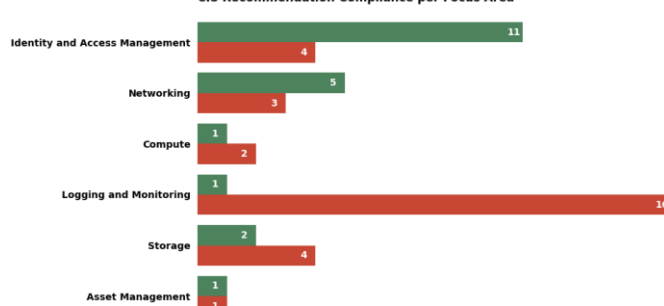


- ✓ Deploy expert for OCI Security /Oracle, Partner, Internal/
- 1. **Kick-off.** Understand the purpose , process and what is included
- 2. **Prepare** Prepare the OCI tenancy and run the script
- 3. **Execute** Run the script to retrieve the information for the assessment
- 4. **Results** Inspect the data and check the html output with the customer
- 5. **Implement.** review actionable feedback from assessment report and plan to implement changes.

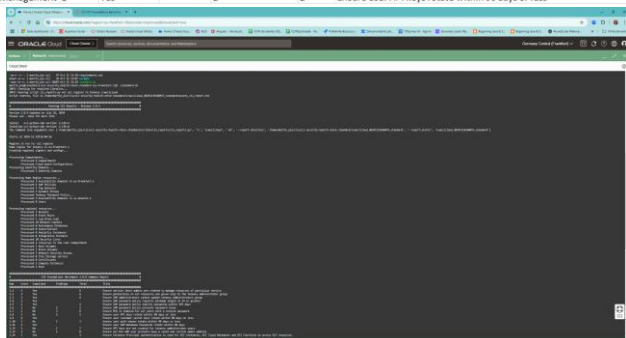
CIS Recommendation Compliance



CIS Recommendation Compliance per Focus Area



Recommendation #	Section	Level	Compliant	Findings	Compliant Items	Total	Title	CIS v8	CCCS Guard Rail
1	Identity and Access Management	1	Yes	6	6	6	Ensure service level admins are created to manage resources of particular service	[5.4, 6.7]	2,3
2	Identity and Access Management	1	Yes	6	6	6	Ensure permissions on all resources are given only to the tenancy administrator group	[3.3]	1,2,3
3	Identity and Access Management	1	Yes	6	6	6	Ensure IAM administrators cannot update tenancy Administrators group	[3.3, 5.4]	2,3
4	Identity and Access Management	1	Yes	0	0	0	Ensure IAM password policy requires minimum length of 14 or greater	[4.1, 5.2]	2,3
5	Identity and Access Management	1	Yes	2	2	2	Ensure IAM password policy expires passwords within 365 days	[4.1, 5.2]	2,3
6	Identity and Access Management	1	No	2	0	2	Ensure IAM password policy prevents password reuse	[5.2]	2,3
7	Identity and Access Management	1	No	3	5	8	Ensure MFA is enabled for all users with a console password	[6.3, 6.5]	1,2,3,4
8	Identity and Access Management	1	Yes	2	2	2	Ensure user API keys rotate within 90 days or less	[4.1, 4.4]	6,7
9	Identity and Access Management	1	Yes	2	2	2	Ensure user API keys rotate within 90 days or less	[4.1, 4.4]	6,7



1.6 Ensure IAM password policy prevents password reuse (Manual)

Profile Applicability:

• Level 1

Description:

IAM password policies can prevent the reuse of a given password by the same user. It is recommended the password policy prevent the reuse of passwords.

Rationale:

Enforcing password history ensures that passwords are not reused in for a certain period of time by the same user. If a user is not allowed to use last 24 passwords, that window of time is greater. This helps maintain the effectiveness of password security.

Audit:

OCI IAM without Identity Domains - Identity Cloud Service (IDCS)

1. Login to IDCS Admin Console
2. Expand the Navigation Drawer, click settings, and then click Password Policy.
3. Ensure that the number of remembered passwords in previous passwords remembered setting is set to 24 or greater.

OCI IAM with Identity Domains

1. Go to Identity Domains: <https://cloud.oracle.com/identity/domains/>
2. Select the compartment your Domain to review is in
3. Click on the Domain to review
4. Click on Settings
5. Click on Password policy
6. Click each Password policy in the domain
7. Ensure Previous passwords remembered is set to 24 or greater

Remediation:

OCI IAM without Identity Domains - Identity Cloud Service (IDCS)

1. Login to IDCS Admin Console
2. Expand the Navigation Drawer, click settings, and then click Password Policy.
3. Click on "Change Your Password Policy" button.
4. Update the number of remembered passwords in previous passwords remembered setting to 24 or greater.



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Ďakujem !

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