



IBM BusinessConnect

Ključ do rešitev 2014

Misli prihodnost. Bodi sprememba.

GH Bernardin | 23. oktober 2014

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SAPUI5 – razvoj analitične rešitve za spremljanje kakovosti izdelkov

Uroš Rožac



Agenda

- Namen
- Zahteve
- Izbira UI
- SAPUI5
- Razvoj
- Demo

The screenshot displays a complex SAPUI5 application interface. At the top, there's a navigation bar with tabs for 'Global Data', 'Platforms', and 'Historical'. Below this, a 'Platform List' table shows various platform types like 'Kuhilni aparat', 'Gorilek', 'Pinski zari', 'Zamrzovalnik', and 'Kuhilnica'. To the right, there are several charts, including a 'Priorities graph' and a 'Service calls cube'. Below the platform list, there's a 'Platform priority details' section with a line chart showing 'Call rate' and 'Agreement' over time. At the bottom, there's a 'Platform priority detail' form with fields for 'Priority detail ID', 'Claim Type', 'FD group', 'FD fact', 'LP group', 'LP location', and 'Replacement material'. A table below the form lists platform details with columns for 'FD fact', 'FD fact', 'LP group', 'LP group', 'LP loca', 'LP location', 'Claim Type', 'Exp. mat.', and 'To Ma.'.



Namen aplikacije

- Odkrivanje napak na izdelkih (lokacija, element, vzrok, napaka)
- Osnova za zaračunavanje servisnih posegov dobaviteljem/proizvajalcem nad pogodbenim % posegov
- Informacije za izboljšanje proizvodnje posameznih elementov in celotnih izdelkov



Tehnične zahteve

- Obstoječa infrastruktura
- Brez dodatnih licenc
- Vir podatkov SAP BW (COPA , Servisni posegi)
- Enostavna uporaba (brez klienta)
- Dobra uporabniška izkušnja
- Vizualizacija (interaktivni grafi)
- Standardizirani PDF reporti
- Export v Excel
- Pivot



Vsebinske zahteve

- Kreiranje platform (definicija skupine izdelkov : matični podatki materiala, država prodaje/posega, dobavitelj, leto proizvodnje, model, serija, znamka...)
- Kreiranje prioritet (definicija napake: lokacija, vzrok, vgrajen element)
- Vnos pogodb (% dogovorjenih servisnih posegov)
- Popravek podatkov servisnega posega
- ASM metoda izračuna % servisnih posegov



ASM metoda

- Kompleksna formula za izračun % servisnih posegov
- Ekstrapolacija letnega % servisnih posegov (Po treh mesecih prodaje novih izdelkov dober približek letnega % posegov)

	Mesec/Leto	Mesečna prodaja	Povp. št. produktov enostavna formula	% razlike	Povprečno število produktov v 1. letu	Servisni posegi	Kumulativna vsota servisnih posegov zadnjih 12 mesecev	Ekstrapolacijski faktor	% Servisnih posegov
	01.2010	102,000	51	0%	51,00	1,000	1	12	23,53%
	02.2010	117,000	109,5	4%	105,75		1	6	5,67%
	03.2010	163,000	191	12%	170,67	1,000	2	4	4,69%
	04.2010	201,000	291,5	17%	248,63	4,000	6	3	=18/G8*J8
	05.2010	214,000	398,5	18%	336,90	2,000	8	2,400	5,10%
	06.2010	165,000	481	13%	427,33	3,000	11	2	5,15%
	07.2010	116,000	539	5%	512,00	4,000	15	1,714	5,02%
	08.2010	223,000	650,5	9%	596,69	2,000	17	1,500	4,27%
	09.2010	221,000	=SUM(D55:D13)/2		687,22	8,000	25	1,333	4,85%
	10.2010	352,000	937	19%	788,30	2,000	27	1,200	4,11%
	11.2010	215,000	1044,5	16%	896,77	5,000	32	1,091	3,89%
	12.2010	352,000	1220,5	25%	972,80	4,000	36	1,200	4,44%
	01.2011	215,000	1328	21%	1.096,14	12,000	47	1,091	4,68%
	02.2011	264,000	1460	20%	1.218,88	8,000	55	1	4,51%
	03.2011	234,000	1577	10%	1.440,13	7,000	61	1	4,24%
	04.2011	352,000	1753	6%	1.655,46	8,000	65	1	3,93%
	05.2011	324,000	1915	3%	1.864,38	11,000	=SUM(H10:H21)	1	3,97%
	06.2011	305,000	2067,5	0%	2.067,92	9,000	80	1	3,87%
	07.2011	335,000	2235	-2%	2.274,71	14,000	90	1	3,96%
	08.2011	176,000	2323	-6%	2.474,54	8,000	96	1	3,88%
	09.2011	177,000	2411,5	-9%	2.652,08	4,000	92	1	3,47%
	10.2011	328,000	2575,5	-8%	2.802,92	7,000	97	1	3,46%
	11.2011	322,000	2736,5	-7%	2.933,58	4,000	96	1	3,27%
	12.2011	315,000	2894	-5%	3.043,54	7,000	99	1	3,25%
	01.2012	275,000	3031,5	-3%	3.130,83	12,000	99	1	3,16%
		242,000	3152,5	-1%	3.199,75	6,000	97	1	3,03%

=((0,5*D31)+1,5*D30+2,5*D29+3,5*D28+4,5*D27+5,5*D26+6,5*D25+7,5*D24+8,5*D23+9,5*D22+10,5*D21+11,5*D20+11,5*D19+10,5*D18+9,5*D17+8,5*D16+7,5*D15+6,5*D14+5,5*D13+4,5*D12+3,5*D11+2,5*D10+1,5*D9+0,5*D8)/12



Kje razviti aplikacijo?

SAPUI5

BOBJ

Web Dynpro

ABAP

BW&IP



SAPUI5/OpenUI5

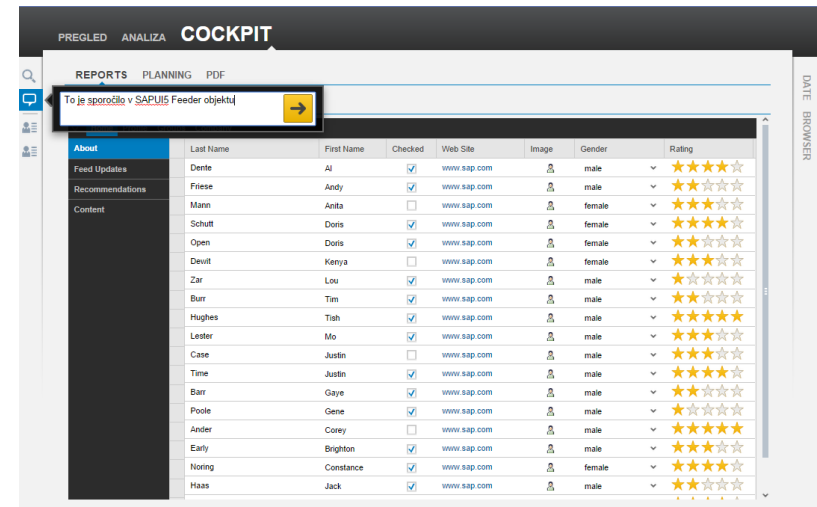
- Javascript knjižnice s komponentami za izdelavo vizualno privlačnih desktop ali mobilnih web aplikacij
- OpenUI5 – „free“ različica na voljo pod Apache 2.0 Open source licenco





Uporaba SAPUI5

- SAP Fiori
- SAP HANA aplikacije
- SAP MII
- Interaktivne in fleksibilne HTML5 web aplikacije
- “lightweight” aplikacije neodvisne od platforme (telefoni, tablice, računalniki)
- Odpira nove možnosti SAP strankam
- Katerikoli SAP modul in vsebina (analitična, operativna...)





SAPUI5 knjižnice

- Desktop

The screenshot displays a desktop SAPUI5 interface. At the top, there's a navigation bar with 'Open Tasks' and a search icon. Below it is a table with columns: Task Type, Priority, Status, Creation Date, and Due Date. A calendar widget is overlaid on the table, showing the month of January 2010. At the bottom, a 'TYPE: Combined Column Line Chart with 2 Y-Axes' is visible, showing 'Profit' and 'Revenue' across six countries. The chart shows Profit as a line and Revenue as bars.

- Mobile

The screenshot displays a mobile SAPUI5 interface. At the top, it shows 'SAP Enterprise Shopping' and a 'SHOPPING CART (2 Items)'. The cart items are 'Apple iPhone 3GS 16GB' and 'Samsung Series 5'. A date picker is overlaid on the right, showing a calendar for 2014 with 'August 11' selected. Below the cart, there's a dashboard with several KPI cards: 'Cumulative Totals Expenses' (125M), 'US Profit Margin' (1.96M), 'Comparative Annual Totals By Region' (Americas 234M, EMEA 97M, APAC 197M), and 'Comparative Annual Expenses By Region' (1.9M). A card for '123 Demo Opportunity' shows 9 hours since last activity.



Razvoj aplikacije

- SAPUI5 knjižnice (UI5 – open source)
- HTML5 + Javascript
- Eclipse
- NetWeaver Gateway
- ABAP
- Chrome (debug JavaScript)



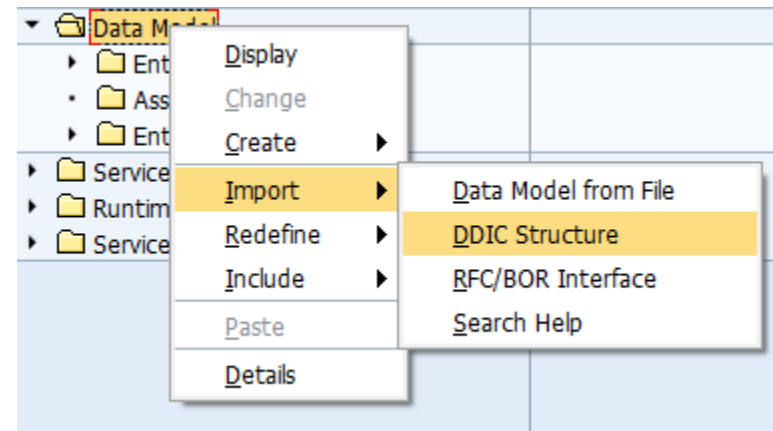
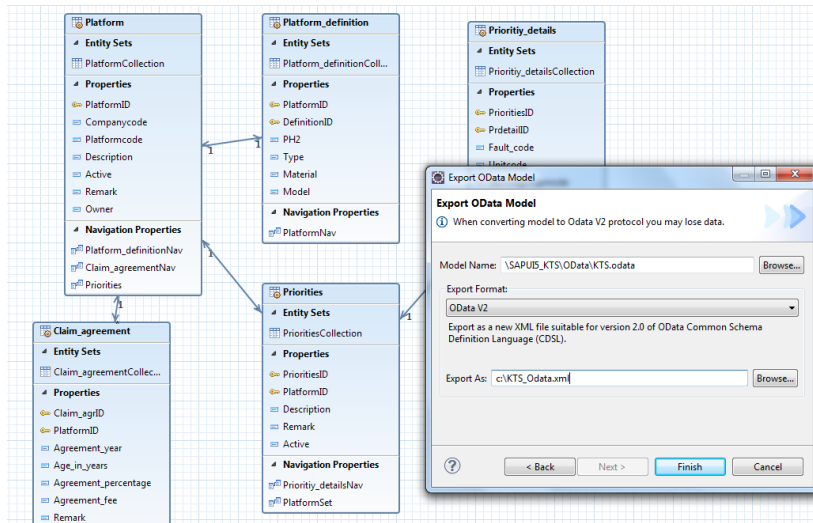
Razvoj aplikacije

- Izdelava OData modela (uvoz ABAP dictionary)
- Kreiranje Gateway servisa
- Izdelava uporabniškega vmesnika SAPUI5
- Upload aplikacije



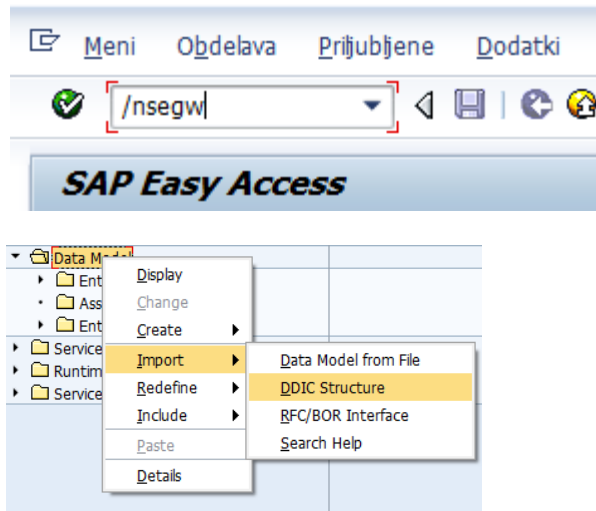
OData model

- Izdelava Odata modela ali uvoz SAP DDIC



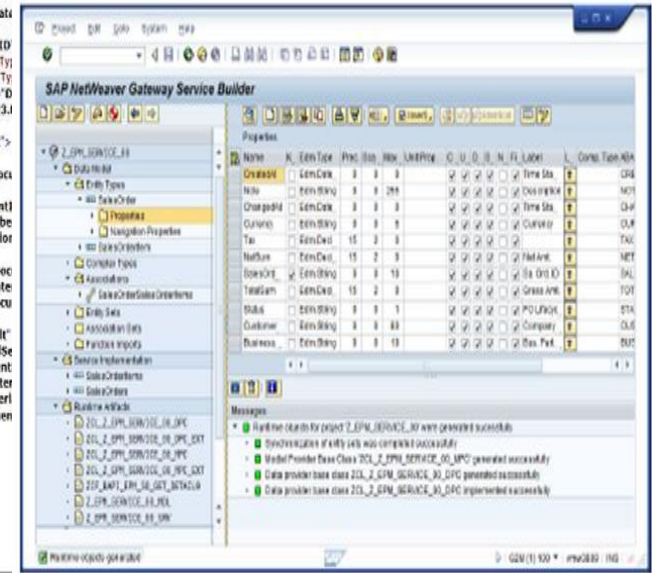
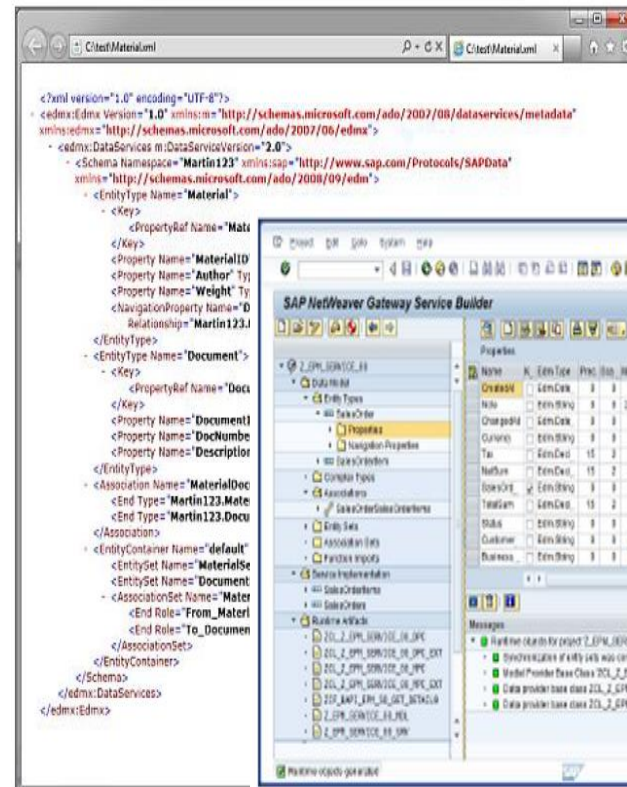
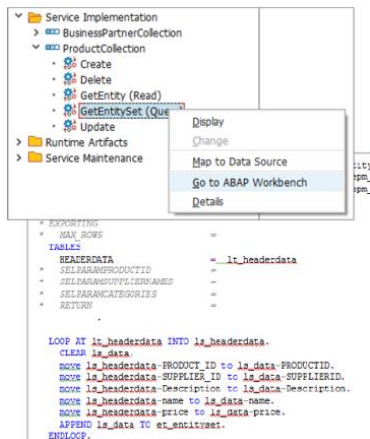


Gateway Service



Implement CRUD methods

- **CREATE_ENTITY**
- **READ**
 - GET_ENTITYSET (list)
 - GET_ENTITY (single entry)
- **UPDATE_ENTITY**
- **DELETE_ENTITY**





Izdelava uporabniškega vmesnika SAPUI5

The screenshot displays the Eclipse IDE environment for developing a SAPUI5 application. The left pane shows the Project Explorer with a directory structure for 'KTS_mobile_old'. The central editor shows the JavaScript code for 'PlatformDetail.view.js', including controller logic and view configuration. The right pane shows a preview of the SAP Fiori application, featuring a 'Platform priority details' table and several line charts. The table below is a detailed view of the 'Platform priority details' data.

FD fault	FD fault	LP group	LP group	LP locn	LP location	Claim Type	Rep. mat.	To Me
1044	Previdna temperatura	10	Hladni sistem	11	Kondenzator	XX	INDUCT	Y
1008	Previdna temperatura	10	Hladni sistem	6	Zvoni na kompresorju	XX	INDUCT	Y
1017	Previdna temperatura	10	Hladni sistem	4	Filtri	YY	INDUCT	Y



Upload aplikacije

SAP Easy Access

se38

SAP Easy Access

ABAP Editor: Initial Screen

Debugging

Program: **BSP_UPDATE_MIMEREPOS**

Update the MIME Repository based on frontend data

Resources

MIME Repository Path: /SAP/BC/BSP/SAP/myBSPApplication/

Import/Export

Export to Disk Import from Disk Create with Different LOIOs

Options

Process Whole Structure Process Flat Structure Process Single File Only

Web Application Builder: Display Page Z5_CR_TEST

index.html Active

Properties Layout Event Handler Page Attributes Type Definitions

Object Name Des...

Z5_CR_TEST	CR TEST
Pages with Flow Logic	
index.html	Main pg
MIMES	
controller	
Login.controller.js	Login.cc
Main.controller.js	Main.cor
CSV	
data	
FlashCanvas	
function	
ASM_function_PPG.js	ASM_fu
ASM_function.js	ASM_fu
copy_array_lastn.js	copy_ar
copy_array.js	copy_ar
COUNT_table.js	COUNT
graph_function.js	graph_fi
graph_select.js	graph_s
load_CSV.js	load_CS
PDF_CRClaim.js	PDF_CR
Pivot_CRClaim.js	Pivot_CR
Pivot_CRG.js	Pivot_CR

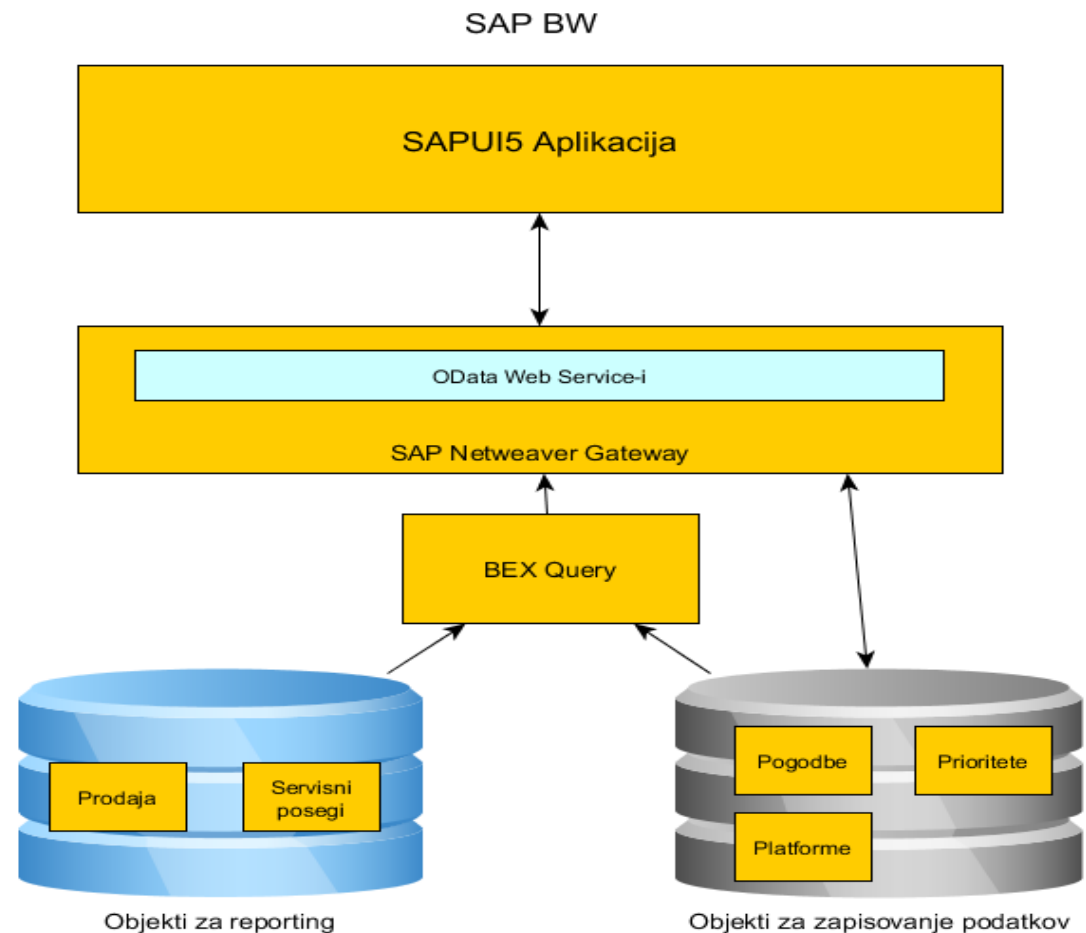
```

1443         type : sap.ui.core.mvc.ViewType.JS
1444     });
1445
1446     var view2 = sap.ui.view({
1447         id : "view2",
1448         viewName : "Main",
1449         type : sap.ui.core.mvc.ViewType.JS
1450     });
1451
1452     oPanelx.addContent(sap.ui.getCore().byId("view1"));
1453     oPanelx.placeAt("content");
1454 </script>
1455 <style type="text/css">
1456     body {
1457         margin: 0px;
1458         padding: 0px;
1459     }
1460 </style>
1461 </head>
1462
1463 <body class="sapUiBody" onload="initializeModel()" >
1464
1465     <div id="header"></div>
1466     <div id="content"></div>
1467
1468 </body>
1469
1470
1471
1472
1473
1474
    
```



Kompleksnost rešitve

- 1 BW multikocka
- 2 BW kocki
- 7 BW DSO-jev
- 12000 vrstic JavaScript kode
- 3000 vrstic ABAP kode





Povezave

SAPUI5 (SAP Marketplace)

- <https://websmp106.sap-ag.de/support>

UI5

- <http://sap.github.io/openui5/>

SAPUI5 SDK

- <https://sapui5.hana.ondemand.com/sdk>

SCN

- <http://scn.sap.com/community/developer-center/front-end>

SAP Development Tools for Eclipse

- <https://tools.hana.ondemand.com/>

Eclipse IDE for Java EE developers

- <http://www.eclipse.org/downloads/>



DEMO

The screenshot displays the SAPUI5 application 'Ključ do rešitev 2014' with the following components:

- Navigation and Header:** SAPUI5 - Ključ do rešitev, file:///C:/KTS/workplace/SAPUI5_KTS/index.html
- Platform List Table:**

Platformcode	Description	Active	Remark
Kuhalni aparat	test Kuhalnih aparatov	<input checked="" type="checkbox"/>	Openbar: 12
Gorilniki	test Gorilniki	<input checked="" type="checkbox"/>	Openbar: 12
Plinski zari	test Plinski zari	<input checked="" type="checkbox"/>	Openbar: 12
Zamrzovalniki	test Zamrzovalniki	<input checked="" type="checkbox"/>	Openbar: 12
Košilnice	test Košilnice	<input checked="" type="checkbox"/>	Openbar: 12
- Platform Priority Details Table:**

Platformcode	Priority	Createdby	Createdat	Changedby	Changedat
1044	1	Uros	1.3.2012	Uros	
1008	30	Uros	24.9.2013	Uros	
1044	1044	Uros	24.9.2013	Uros	
10	10	Uros	1.3.2012	Uros	
11	11	Uros	1.3.2012	Uros	
11	11	Uros	1.3.2012	Uros	
- Platform Priority Details Form:**

Platform priority detail ID: 1
 Claim Type: XX
 FD group: 30
 FD-fault: 1044
 LF group: 10
 LF location: 11
 To Name: Y
 Replacement material: INDUCTERKOOPLATEN
- Charts and Graphs:**
 - Platform priority details:** Line chart showing priority levels over time (2011-2013).
 - Platform priority details:** Line chart showing priority levels over time (2010-2014).
 - Platform priority details:** Line chart showing priority levels over time (2010-2014).
 - Platform priority details:** Line chart showing priority levels over time (2010-2014).

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Hvala!

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