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1.1.1.	- .....	8
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1.2.1.	.....	10
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1.3.2.	.....	14
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### 1.1. -

[10, . 31], [10, . 148],  
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 [34] - ,

[12, . 55] « — ,

». [12, . 55]





## 1.2.

### 1.2.1.

[17],

[18, . 27],

[10, . 30 - 31], [18, . 30]

[10, . 31]

«

( )

».

[18, . 30],

[78, . 6]

PMBOK [52, . 8],

### 1.2.2.

. 34]

### 1.3.

#### 1.3.1.

[18, . 15],  
 — *BPMN* ( ), *EPC*  
 (c ).

. , [18, .  
 15],  
 :,  
 , , .

. SADT (Structured  
 Analysis and Design Technique) IDEF (Integration Definition for Functional  
 Modeling).

- . -  
 [18, . 17] c  
 , -

- . -  
 UML (Unified Modeling Language).

- . -  
 [18, . 18] -  
 , --

, , - ,

BPMN (Business Process Model and Notation),  
 ARIS (Architecture of Integrated Information Systems), EPC (  
 ).

### 1.3.2.

. [14]  
 ,

, [14, . 15]  
 $C = (P, T, I, O)$ , 4- :

1.  $P$ ;
2.  $T$ ;
3.  $I$ ;
4.  $O$ .

,  
 .

.

[14, . 18]  
 $G = V, A$ ,

$v_i \in V$   $a_i \in A$ .  $V$   
 $P ($  )  
 $T ($  ).

**1.3.3.** -

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**BPMN.** BPMN - ,

— - ,

OMG BPMN.

BPMN

[64, . 26]

:[64, . 30]

1. (flow objects);
2. (data);
3. (connecting objects);
4. (swimlane);
5. (artifacts).



( ,  
. .). BPMN , -  
/ . -  
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**YAWL** *YAWL (Yet Another Workflow Language)*  
(Aalst) (Hofstede) 2003

[77],  
, YAWL  
. ,  
[77, c. 3] :

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- 

YAWL, [77, . 10],  
,  
YAWL  
,  
YAWL ( . 1.3.2 . 14).

1.4.

1.4.1.

. WfMC [30, . 9] -  
(Workflow) , -  
 , -  
(workflow engine). -  
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 , -  
 [20, . 31 -- 35], workflow- -  
 — ( ) , -  
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 — , -  
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( ) — -

Workflow-

Workflow,

[5, . 127],

Workflow

Workflow,

[5],

:

Workflow-

workflow

Cunningham LLP Zagiel S.A.,

[25], [21].

Cunningham LLP

Zagiel S.A.

#### 1.4.2.

BPM-

[1]

( , BPMS)

«

. BPMS

»[61]

### 1.4.3.

PMBOK Guide [52, . 33]

e

, [29, .46]

[6, c. 91 - 93]), :

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[41]

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## 2.1.

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### 2.1.1.

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 [16] [2],  
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 — [35], -  
 [73], [33],  
 [22].

### 2.1.3.

(agility) - .

, [60], [42], -  
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 , [59] [22],  
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 [35] .  
 workflow, .  
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 [76]  
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 c ( . [66], [67])  
 workflow -  
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 , [7, . 95] -  
 ( . . 53).



2.2.

2.2.1.

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Gartner Inc. ([46]) Forrester Research [45]) 2009 – 2013

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[46], [45],

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• -

The Forrester Wave [75], [72], [27], [26],

Gartner Magic Quadrant [54], [55], [56], [57].

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• :

• : PegaSystems, IBM, Appian, Progress Software,

Metastorm — -

• -

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• : Fujitsu, EMC, Global360, Bosh Software Innovations

### 2.2.2.

( . 2.2.1 . 29),

:

: Appian BPM Suite[31], OpenText MBPM [48], Cordys BPMS [47], Pegasystems BPM [49], Fujitsu Interstage BPM [39], Tibco Active Matrix BPM [50];

: jBPM [58], BonitaBPM [24], Taverna Workflow [62], Activiti BPM [43], Pegasus [69], Intalio BPMS [53].

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2.2.3.

OpenText (Cordys BPMS, MBPM), Appian.

Appian

(jBPM, Activiti)



2.2.4.

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jBPM	Activiti		,	-
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3.1.1.

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[79] — ,

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TOGAF. TOGAF 9

[40]

· TOGAF ,

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GERAM [36].		GERAM	
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<b>3.1.2.</b>			
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Appian	OpenText MBPM,		
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### 3.1.3.

VERAM [19],

GERAM.

VERAM

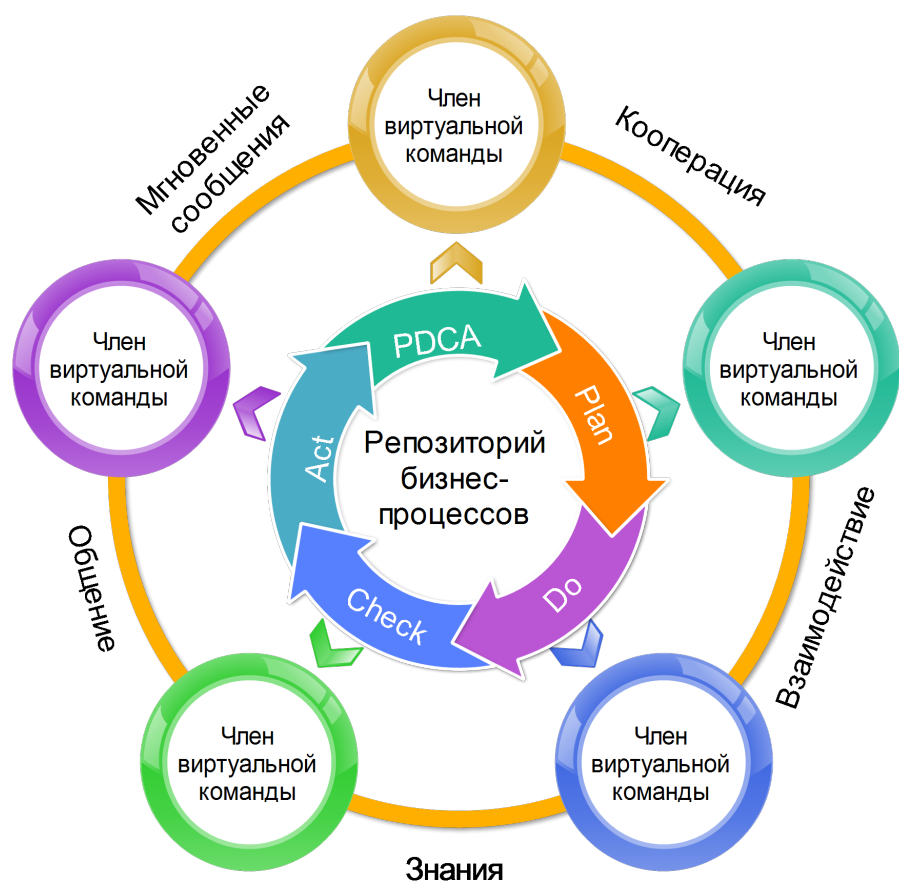
VERAM

### 3.1.4.

TOGAF.

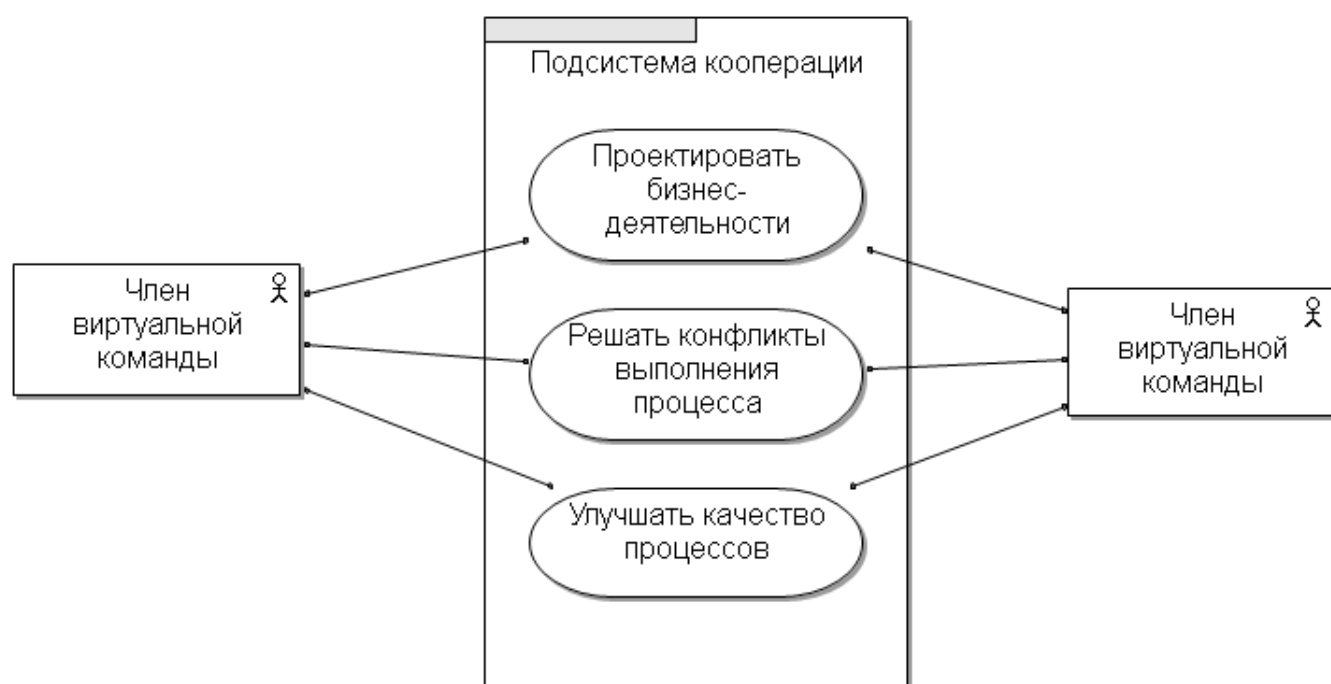
3.2.

3.2.1.



. 3.1.

3.1



. 3.2. :



### 3.2.2.

#### **jBPM    Activiti.**

( . 2.2.2 . 30)

jBPM    Activiti.

,

,

Activiti.

Activiti

(BPMN 2.0 XML),

jBPM

- ,

jBoss Drools,

XML

jPDL.

Activiti,

[43],



Alfresco [44],

Activiti

Apache,

[37],

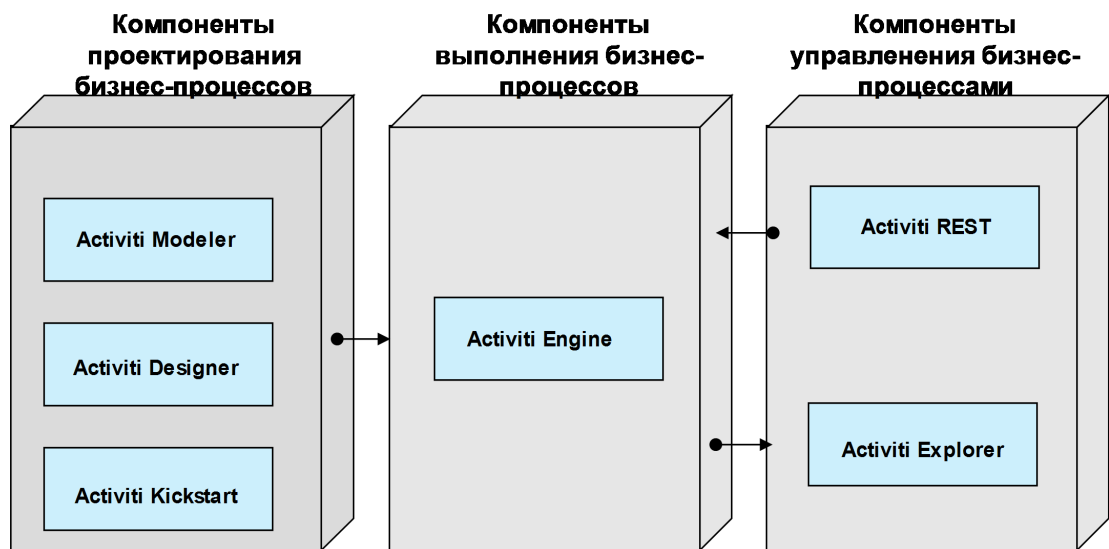
**Activiti.**

Activiti

(Activiti Modeler, Activiti Designer)

(Activiti Engine). 3.3

Activiti.



3.3. "

Activiti [43]

Eclipse IDE.

BPMN 2.0 XML.

BPMN XML,

git.

git,

[65], [68],

git

XML

git

XMPP.

XMPP

.	<b>Openfire.</b>	XMPP	-
			.
			[38],
			OpenFire [71].
		OpenFire	-
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		Openfire	-
LDAP,			
	. Openfire		Open Source Apache,
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URL: <http://abpmp.org.ru/resource/bpm-glossary>. ????
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// . 2003. 4. . 89 –93.
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<< - >>, 2004. 400 .
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370 .
8. . . , ,  
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1984. 264 . . .
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608 .
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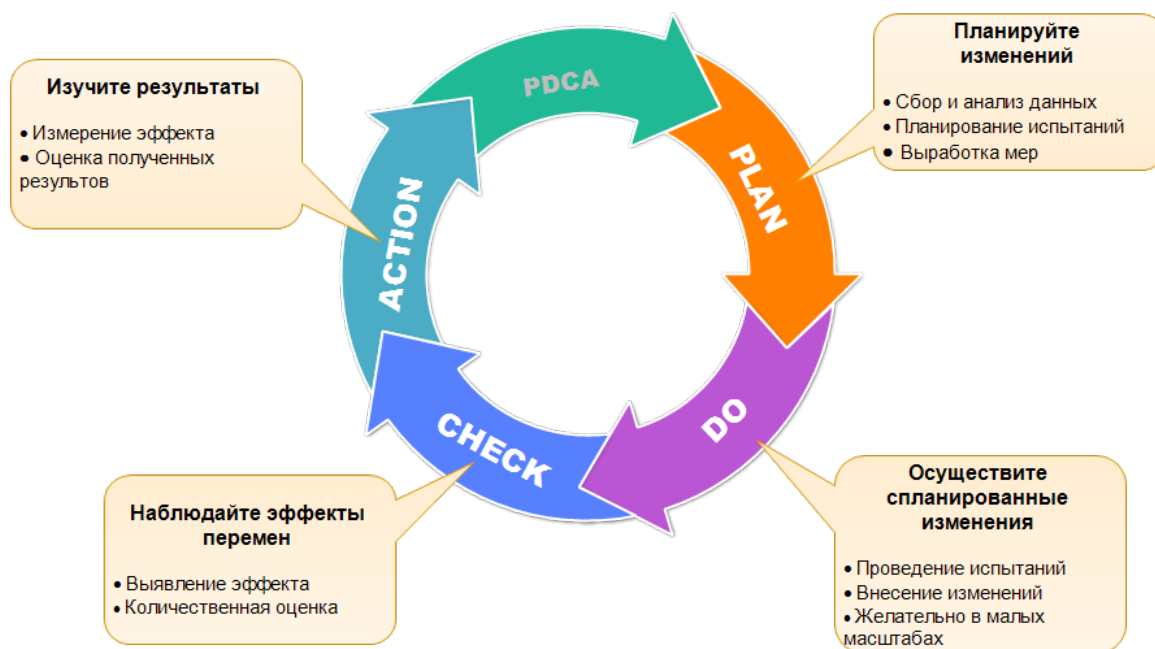


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[7, .97]

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	<b>Des</b>	<b>Org</b>	<b>Ctrl</b>	<b>Res</b>
Appian BPM Suite	9	8	9	7
OpenText MBPM	8	7	8	10
Cordys BPMS	10	8	6	9
Pegasystems BPM	10	9	10	9
Fujitsu Interstage BPM	7	7	6	5
Tibco Active Matrix BPM	6	10	9	9
jBPM	8	7	8	7
BonitaBPM	8	8	10	7
Taverna Workflow	5	10	6	7
Activiti BPM	7	6	7	5
Pegasus	5	10	8	8
Intalio BPMS	9	6	8	5

**Des**  
**Org**  
**Ctrl**  
**Res**

.2.

.2.

	Des	Org	Ctrl	Res
Appian BPM Suite	8	5	8	6
OpenText MBPM	7	8	6	7
Cordys BPMS	3	10	3	1
Pegasystems BPM	4	10	5	9
Fujitsu Interstage BPM	8	5	8	8
Tibco Active Matrix BPM	0	1	2	0
jBPM	2	6	2	0
BonitaBPM	7	5	3	3
Taverna Workflow	3	2	4	0
Activiti BPM	0	2	0	2
Pegasus	1	0	1	0
Intalio BPMS	1	1	3	1

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KM  
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