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# CC businesses in the region of Belarus

LT-BY Cloud (LLB-2-142)

Workshop for CC cluster development  
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# Information sources

Current review is made on the base of previous and related activities :

1. Preparations and final results of the Study of opportunities and prospects in CC for IT enterprises in the region (GA 4).
2. Presenting the opportunities of participating in the LLB-2-142 Action and cluster capabilities. (GA 1, GA 5)
3. Results of the workshops within the project with business representatives as a target audience. (GA 3, GA 4, GA 5)
4. Data collected during individual meetings with business representatives. (GA 4, GA 5)
5. Taskforces results and data gathered during additional events. (GA 5)



# Definition of CC business

CC is the delivery of software, infrastructure, and storage over the Internet (either as separate components or a complete platform) based on user demand.

Essential characteristics (NIST Special Publication 800-145) :

- ❑ *On-demand self-service*
- ❑ *Broad network access*
- ❑ *Resource pooling*
- ❑ *Rapid elasticity*
- ❑ *Measured service*



# Local features for CC businesses in Belarus

1. Belarusian President's Edict on February 1<sup>st</sup>, 2010, № 60 «About the measures to improve the use of the national segment of the Internet»:

«2. деятельность по реализации товаров, выполнению работ, оказанию услуг на территории Республики Беларусь с использованием информационных сетей, систем и ресурсов, имеющих подключение к сети Интернет, осуществляется юридическими лицами..., с использованием информационных сетей, систем и ресурсов национального сегмента сети Интернет, размещенных на территории Республики Беларусь и зарегистрированных в установленном порядке.»



# Local features for CC businesses in Belarus

2. Belarusian President's Edict on November 18<sup>th</sup>, 2011, № 515 «About some questions of development of information society in Republic of Belarus»:

- delegations of independent regulator functions in the area of information and communication technologies to Operational and Analytics Centre;
- creation of National Centre for Electronic services.



## Local features for CC businesses in Belarus

3. Belarusian President's Edict on January 23<sup>th</sup>, 2014, № 46 «About use by government bodies and other state organizations of telecommunication technologies»:

« ...

1. Создать:

республиканскую платформу, действующую на основе технологий облачных вычислений. ...

2.3. оператором республиканской платформы является СООО «Белорусские облачные технологии» ...

»



# Local features for CC businesses in Belarus

2. Belarusian President's Edict on December 2<sup>nd</sup>, 2013, № 531 «About some questions of informatization»:

«...»

7. Определить, что:

Государственные органы и организации осуществляют мероприятия в сфере информатизации только на основании программ информатизации

...»



# Highlighted types of businesses in the area of CC

1. System integrators
2. Infrastructure service-providers
3. Software as a service-providers
4. Software engineering for CC
5. Integrated CC business models
6. International CC providers, vendors





# 1. System integrators

specializes in bringing together component subsystems into a whole and ensuring that those subsystems function together, a practice known as system integration.

The companies are building clouds and/or delivering hardware and software tools for clouds. Examples are:

- Bevalex
- Computers and perefery
- Summit technologies
- Asbis
- BelHard group

and others. Total number of such companies around 20.



## 2. Infrastructure services providers

Definitions of the infrastructure services within Belarus are mixed in practice. These are:

- Hosting services that called IaaS (but not corresponds to all characteristics of IaaS).
- IaaS, PaaS providers.
- Providers of service of Collocation server

Total number of such infrastructure providers is around 40.



### 3. Software as a service providers

are presented poorly, with only a few examples:

- Assitant.by – online accounting service;
- Облачный Канцлер – electronic document management system, provided by NCES
- SiteBuilder – online service for quick site building



## 4. Software engineering for CC

IT-companies that carry out developments concerns with cloud technologies.

Presented by the range of Software engineering companies, from large enterprises (EPAM Systems, IBA Group, iTransition, BelHard Development) to SME's (Altoros Development,...)

Total number of such software engineering providers is around 40.



## 5. Integrated CC business models

Also IT companies that implements integrated business models can be included in the CC landscape of Belarus. These are:

- 1) Trade and personal ads platforms. Examples are Onliner.by, 1K, kosht.com, kufar.by, av.by, abw.by,...)
- 2) Companies and organizations uses CC as an internal component of own business processes (owned private clouds): EPAM Systems, IPPS, ...



## 5. International enterprises (vendors) vs. Local features

International corporations providing cloud services are also presented in Belarus. But features of the local regulation set some restrictions for their activities. Examples are:

- Microsoft (that not sells Office365 to Belarusian customers)
- Oracle
- SAP
- and others.



## Conclusions for review of CC businesses in Belarus

1. Average level of competences in CC of developers. Low (poor) level of competences in CC of users.
2. Wide representation of software engineering for CC. High demand on special knowledge for cloud software developing.
3. Lack of pure services models of CC (IaaS, PaaS, SaaS, DaaS, HaaS). Absence of some service models (CaaS, WaaS, EaaS).
4. Wide representation of public sector (as consumer and as stimulator).



# Thank you for your attention

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