

Cloud Mining: Lessons from a parallel Universe

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Cloud mining

- Own definition:
 - Cloud Computing + Contract Mining
- Can we adapt the tried and tested concepts of cloud computing to contract mining?
- While the Small to Medium and Large Scale mines are practising it in various degrees, it is a challenge with artisanal miners
- But why should we care about Artisanal miners?



'Our Lord Reigns'
JRG
'Jabulani Kuphela'



Systems Thinking...

- It requires us to align our thinking at at least three different levels

Level 3	• Community	Continent	Spirituality	Economy	Conceptual
Level 2	• Family	Region	Religion	Industry	Logical
Level 1	• Individual	Country	Church	Mine/operation	Physical

Mining Industry...A Social Cultural View



Large Scale Mining

Level 3



Small to Medium Scale Mining

Level 2



Artisanal Mining

Level 1

Artisanal Mining ...the challenge

As an important component of the mining industry?

Empower communities to mine in a more sustainable manner?

Can artisanal mining contribute to country's GDP?

What can we borrow from Cloud Computing?

Cloud Computing



- It refers to both the applications delivered as services over the Internet and the hardware and systems software in the data centers that provide those services.

- The data centre hardware and software is what we call the Cloud
- Public Cloud – pay as you go – available to the public
- Private Cloud – Internal – not made available to the public (more like the mining contractors employed by large mines to mine for them)
- Literally, you are using someone's resources and pay for the time used.

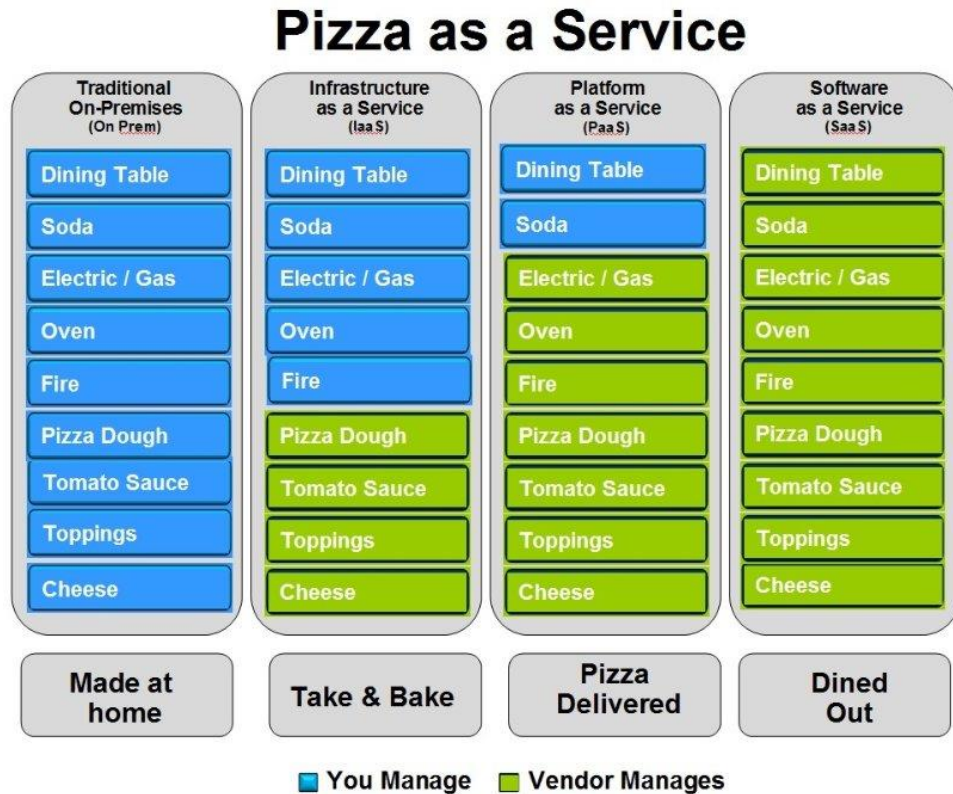
3 Aspects of Cloud Computing

An Illusion of infinite resources, available on demand...no need to plan far ahead

Elimination of upfront commitment of resources ...less **CAPEX**...allows companies to start small

Ability to pay for use of resources on a short-term basis as needed
...**OPEX**

Cloud Computing – Pizza analogy



- You have 4 options as a miner:
 - You can buy all the mining equipment you need and mine
 - You can own some equipment and hire some of it and do part of the mining or processing
 - Hire equipment and services and you do minimal admin work
 - You let the contractor handle everything while you are on an island spilling wine on yourself

Mining as a service...Way Forward

Private sector participation –
equipment and services

3 levels involvement

Government participation –
equipment, services and
funding

**(DDF? – should Govt be
mining)**

Organised Communities that
own the mining claims and
have access to OPEX
resources....be able to pay
services and with no need
for CAPEX

Can government create
“data centres” (equipment
and services) in each
province and possibly
districts?

Can Consultants provide
services to these
communities and have a
different business model for
communities.

Can we move from Artisanal
Mining to Community
mining using mining as a
service model

Thank
you

Q & A