

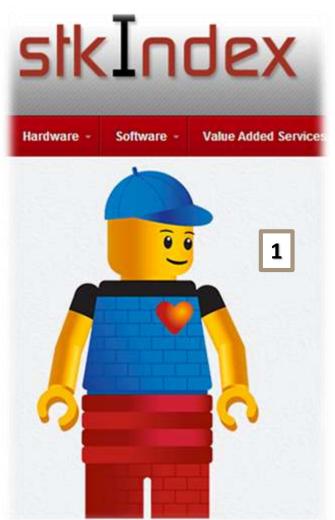
With good vibrations...

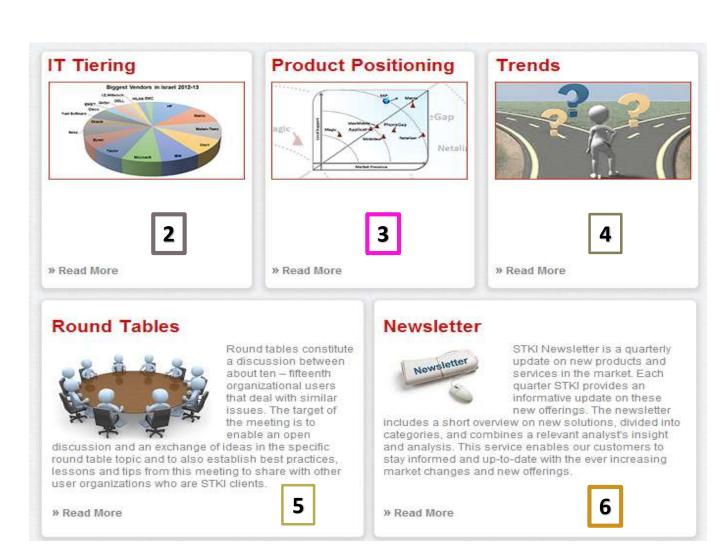
STKI SUMMit 2014

Pini Cohen & Sigal Russin

STKI "IT Knowledge Integrators" pini@stki.info sigalr@stki.info

What are you getting







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Thanks to STKI team!

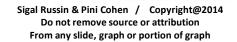
















I was chosen for the job I wanted—CIO of the organization!



Board
meeting
at
10:00







The CEO has asked to:

- "Do better with the current business processes"
- "Enable new business processes"
- · "Act like a factory"





Do better with current business processes means better:
Availability, Business alignment (LOB will not have to "wait" for IT),
Regulation compliance, Security.
All with lower budget!





What does "Support new business processes" mean?





Why does IT need to adapt?



DX.com



Source: 2006 http://cacm.acm.org/magazines/2006/10/5805-why-spoofing-is-serious-internet-fraud/abstract

2006 E-Banking Site

Comparison engines

A-B testing

Social media integration

Alerts

Web Analytics

Recommendation engines

Much more





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Wish Lists

New business needs require:

Different Functionality

 Comparison engines, Alerts, Web Analytics, A-B testing, Recommendation engines, Social media integration, Wish Lists, Blogs, Likes, Personalization (geographically, etc.), API Economy (working with many partners) etc (more at Einat and Galit's presentation.

Different Mentality

- <u>Constantly updated</u> to application, <u>Unplanned Scale</u>, <u>Short</u> (and long) projects, Huge Data needs, Huge Compute needs, <u>Mobile</u> <u>first</u>, API Economy etc.
- •This cannot be achieved with "More of the Same" IT technologies and processes!



Insanity is doing the same thing, over and over again, but expecting different results.

-Albert Einstein



These new systems are called: "Systems of Engagement"

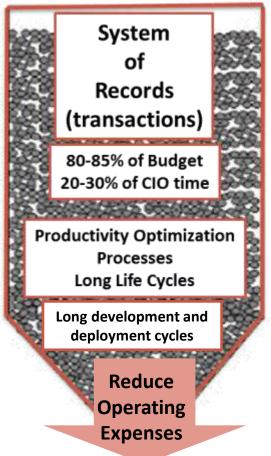




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IT is divided into two distinct "worlds"



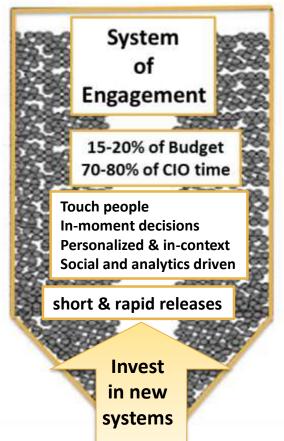


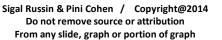












In this presentation

Systems of records are utilizing <u>Traditional</u> technologies



Systems of engagement are utilizing <u>New</u> technologies



But in reality new technologies are <u>also used</u> for systems of records





System of records technology stack

Security Monitoring "packaged application"

GUI Code

Middleware : ESB, BPM, ETL, FTP, BRMS

Automation at department level

RDBMS

Virtualization: Hypervisors, Virtual Network Virtual Storage

HW: Brand Blades, Network, Storage

Converged Systems = appliances

Traditional "fixed" DC, Hosting\DR providers



System of engagement technology stack

Security Monitoring

Monitoring\
security is part of cloud\platform

API Economy

Code GUI

API

Cloud computing platforms

CEP – Streaming data

API management tools

No SQL (Mongo, Cassandra, Couchbase), Hadoop

Cross department automation = Devops tools

In many cases no virtualization. In some cases Hypervisors or Containers (Docker)

HW: White Boxes (or specific build) Servers, No central storage, Object Storage, SD Storage, Network SDN,

Public or private infra clouds

Modular DC, Cloud





What does "Like a factory" mean?





Who is running this?

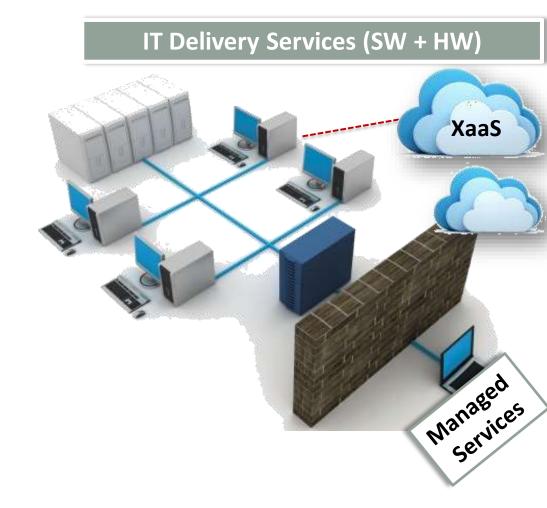
The IT Factory = "IT Delivery Department"



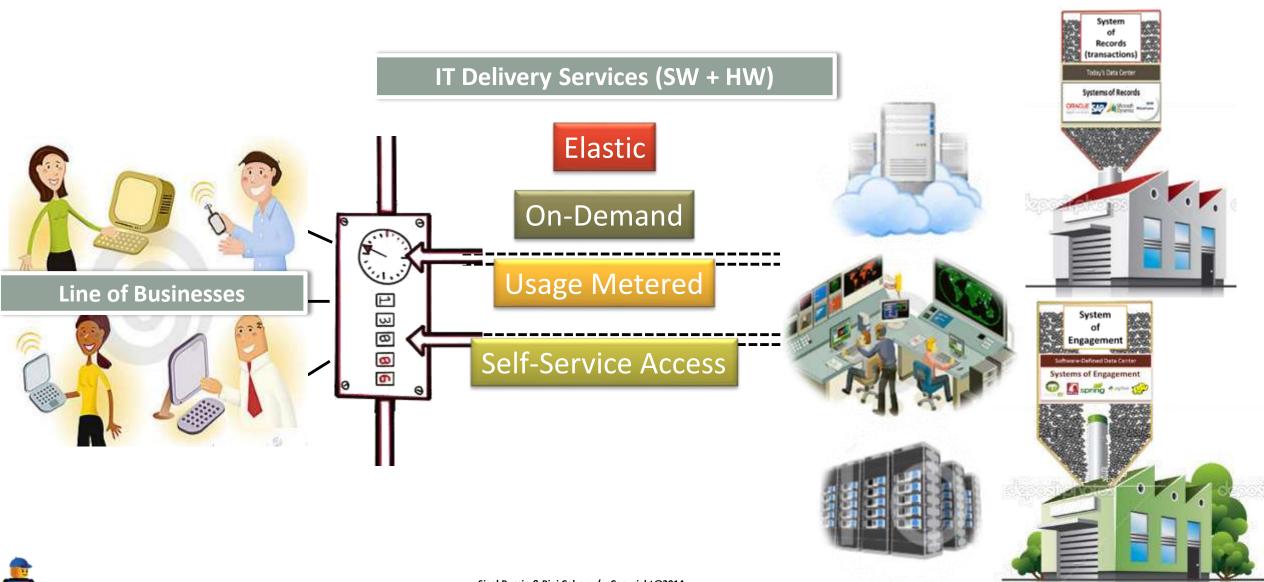




IT Delivery as a Factory!

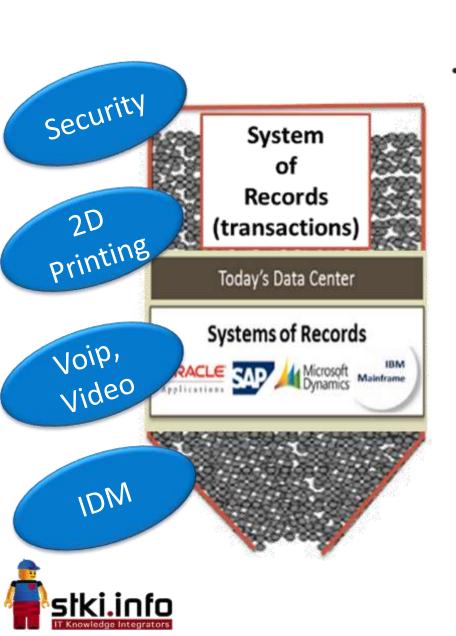


IT Delivery as a Factory!

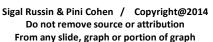


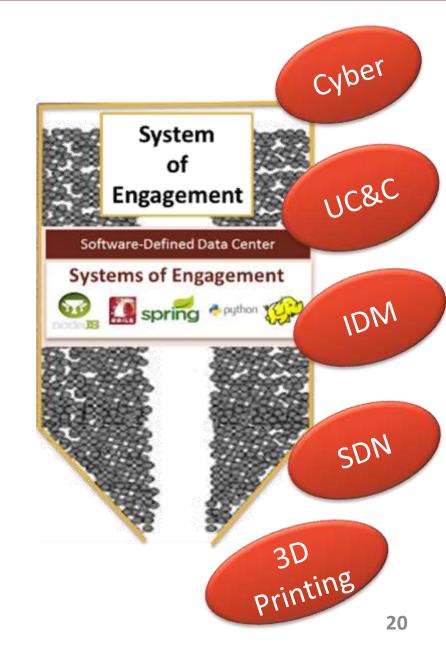


IT is divided into two distinct "worlds"









IT Delivery Challenges



System Records (transactions) 80-85% of Budget 20-30% of CIO time **Productivity Optimization Processes** Long Life Cycles Reduce **Operating Expenses**

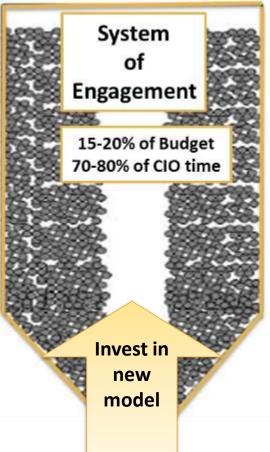
"Records" and "Engagement" share the same *IT Delivery* problem domains

But might address these challenges differently









This is a "marathon" and not a sprint Let's first meet with the members of the team





STKI Summit 2014 Frame tale: The DC manager







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Modular DC



Modular DC is

- On Wheels
- Containers: iso containers vs. none-iso size containers
- "Self contained" containers vs. containers that rely on outside cooling, power (generators), etc.
- Modules that are assembled together





Modular DC pros and cons

Pros:

- Faster delivery, easy to install, pre-built
- Grow as you grow
 – do not need to invest for future use
- Growth and maintenance are predictable
- Repeatable design leads to lower PUE = lower operations cost
- Should be cheaper because of scale of production

Cons:

- One size does not fit all
 - size of container \ size of underground elevator
 - regulated components
 - size of building 50 cm is left unused
 - Special need that is not standard
- Vendor lock-in in procurement and maintenance
- How long will it take to bring container to Israel ?!
- Can be more expensive because "they can"



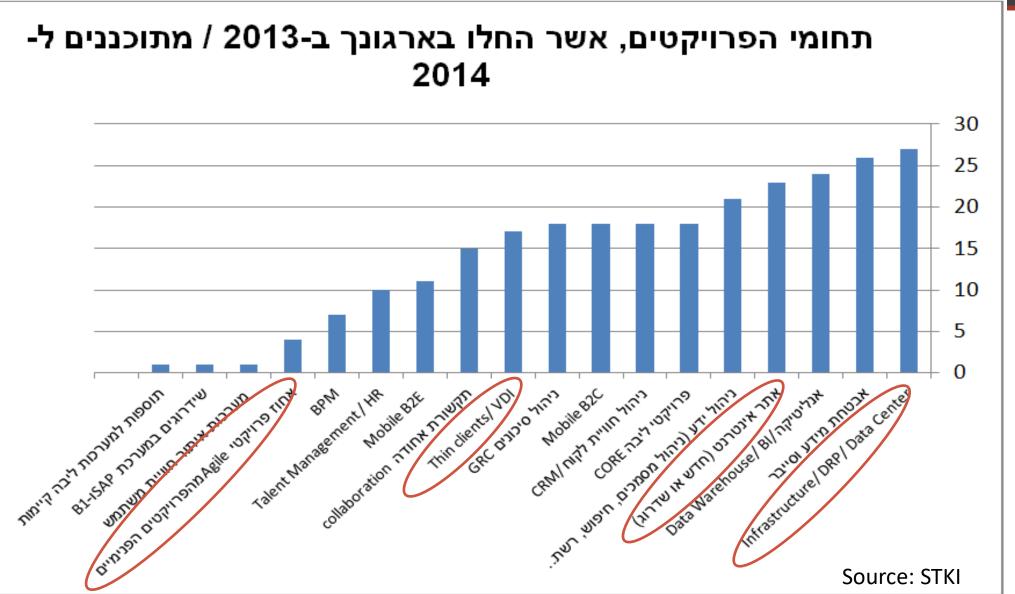


Modular DC is a viable option. Its final market position is still evolving.





Who is using the DC technologies - End Users





Who else is using the DC technologies

- Boom of new and expanding Hosting, DRP, Cloud providers:
 - ► MED1, BezeqINT, CCC, Bynet, Malam, HP, IBM, Viola, Adgar, etc,.
- On top of the basic Hosting\DRP services
 we see more and more Cloud services:
 - Backup as a Service
 - DR as a Service (example WE!Cloud)
 - Email as a service (provided by local companies)





Israeli players believe that local regulations will help local cloud providers ("Canada" style)



STKI Summit 2014 Frame tale: The Network manager







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Networking

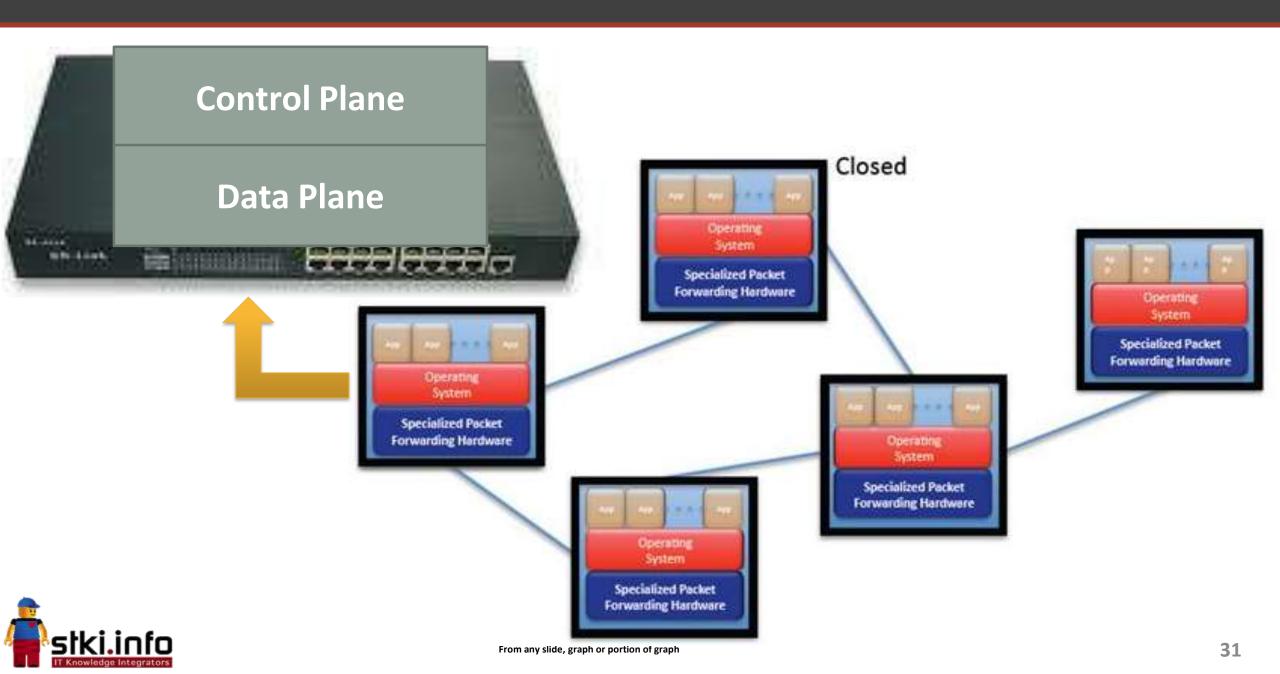


- Multiple virtualized machines exchange multiple traffic flows.
- > Switching routes and juggling bandwidth can be a headache.
- ➤ Network hardware **costs**, network management costs **human resource**
- > Secure all networking components
- Can not control business **applications** they run separately.





Current Network



SDN- Software Defined Network

- Centralized management and control
- More granular network control
- Improved automation and management
- Rapid innovation
- Programmability
- Increased network reliability and security
- Better end-user experience

Control Plane

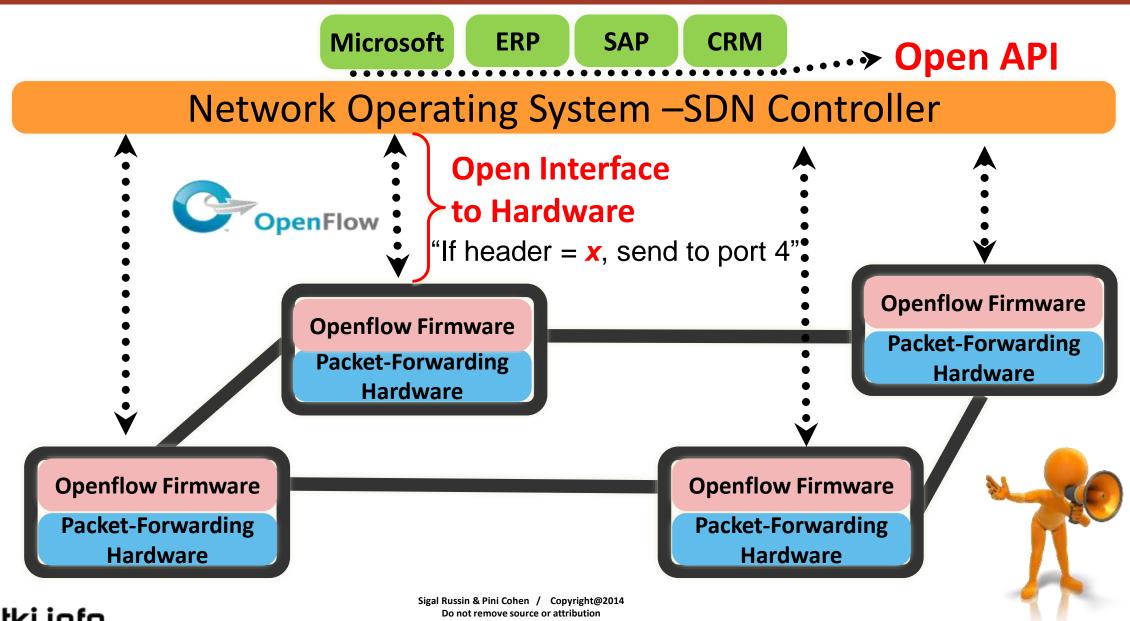








The "Software-Defined Network"



SDN could improve your IT and business environment



Accelerating the Traffic

visibility into network loads, and jams, to make intelligent rerouting and dynamic changes to bandwidth much easier.

Controlling the organization



TCO + ROI

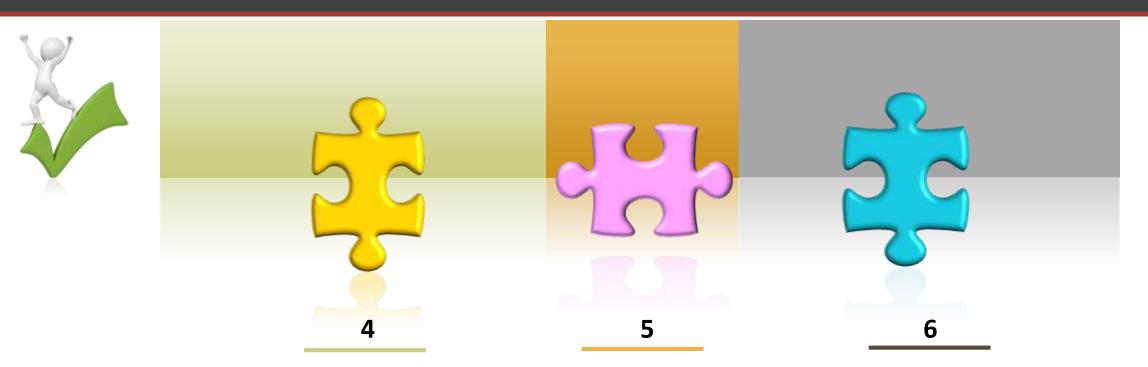
reduced expenditure on network hardware, plus reduced network management costs





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SDN could improve your IT and business environment



Embracing Analytics

Deep intelligence from an increasingly distributed computing environment, automate network management. Increasing **processing speeds** and providing the **flexibility** and scalability to handle big and unstructured data.

Securing the Network

virtual machines and applications, regardless of location, while providing a

central security brain

to diagnose and treat threats.

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App-Friendly Ecosystem

SaaS apps can be readily accessible, promotes rapid deployment of new apps, and efficiently manages bandwidth requirements.



Business Applications with SDN

I want my SAP traffic to have priority. But no more than 20%.

Rules- Every 24
hours: transfer 10
TB of data to the
backup service
,avoid impact on
any other
services.

A new prototype
application
create a new
isolated network,
must not interfere
with normal
network activity.

Every IP flow has a matching security policy as a flow entry.



SDN can improve your business applications performance

Insights from Customer Roundtables



FCOE not mature enough and can lead to problems between the various teams : networking ,storage ,DB.

Most organizations don't believe in SDN, because knowledgeable and expert teams are not available yet

In wireless network don't forget the security and management (maybe service provider).

Most customers do not plan to migrate to IPV6. They think the ISP should lead it.

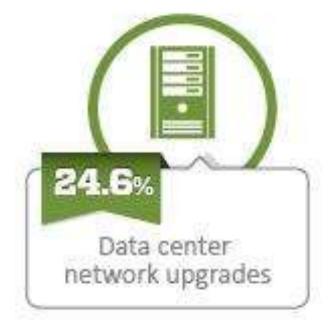


Networking technology findings for 2014

What are your company's top three networking priorities for the next 12 months?







Others receiving more than 10% of responses:

Network virtualization 18.3%, Network hardware upgrades 18.2%,

Network management tools & appliances 17.7%, Storage networking 18.8%, Remote access solutions 12.9%,

Unified communications 12.2%, Bandwidth & telecom services 11%



Good communication is fundamental

Todays Communication network:

- ➤ Data and voice in separate network
- >A lot of vendors
- ➤ Separate maintenance for each network
- ➤ More employees for each network
- ➤ High costs



The solution: Unified Communication.

Combining **telephony** and business **data** on the same network. It gives the ability to combine and use **voice**, **data**, **video** information in **common business applications**, saving and forwarding whole **instant message streams**, **faxes**, **e-mails**, **voice phone calls or videoconferencing** sessions as blocks of data.



CIOS Extend Unified Communications to Mobile Devices

Why invest in UC?

61% - to boost employee productivity

42% - to increase flexibility for employees

The biggest obstacles to UC investments:

54% - the high cost

47% - systems integration headaches

33%- lack of in-house expertise

31% - security and privacy



UC deployments often cost at least \$250,000, and can top \$1 million at large companies

Source: survey by IDG Enterprise, CIO's parent company



Unified Communications Areas



Communications

"UCC" Collaboration



Telephony

E-mail

Team/shared workspaces

Voice mail

Unified messaging

Wikis, Blogs, Filtering

Audio-conferencing

Web conferencing

Social software & Analytics

Wireless e-mail

Instant messaging

Expert location & Context

Videoconferencing

Presence

aware applications

Call Center

Directory

Collaborative/real-time authoring Other collaboration tools



Communicate

Share

Network

Aggregate

UCC represents a broad set of functions. Growing, evolving, changing, adapting.

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How Many Horses In This Race?

Traditional PBX vendors

- Cisco
- Avaya
- Siemens
- Alcatel-Lucent
 OpenTouch
- Etc.

Desktop vendors

- IBM SameTime
- Microsoft LYNC

Social networking with Consumerization

- Google
- Skype Microsoft
- LinkedIn
- Facebook





Insights from Customer Roundtables



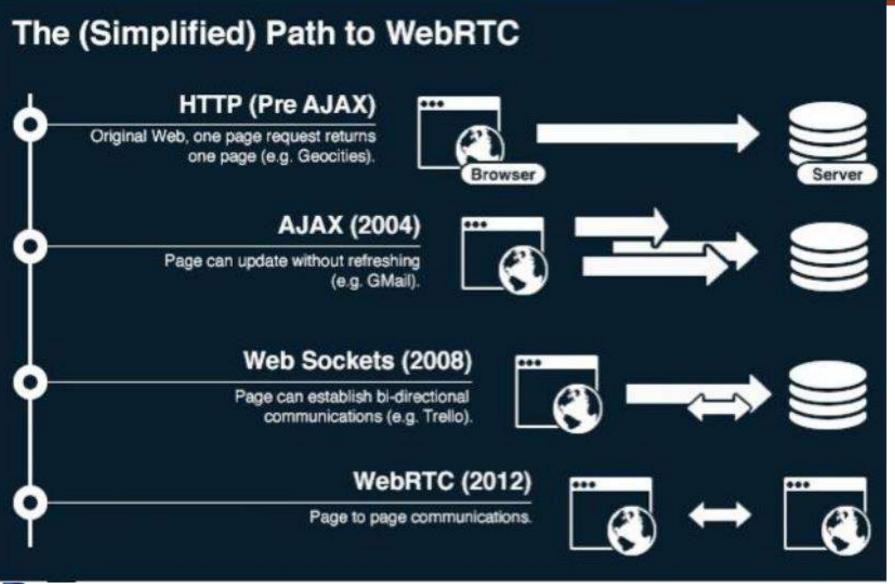
UC project must combine 3 departments: VOIP, Network, Differe. can lead to failure or success in UC projects

most of the organizations LYNC market share is very sur Microsoft based. But what about in

Cross organization projects that can optimize work and c. culture



Web Browser with Real Time Communication



- ✓ No need to install client/plug In.
- ✓ Supported in the browser/Mobile.
- ✓ Better user experience –Click to call.
- ✓ Contact Center-Meta Data of the customers.



STKI Summit 2014 Frame tale: The Storage manager







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Major storage trends include:

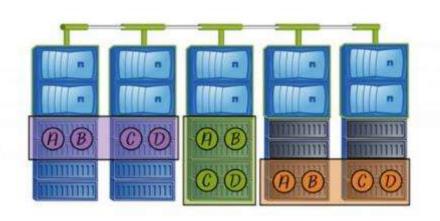
- Continuous growth in volumes
- Price drop per TB
- From Highend to Midrange to JBODS\Servers (SDS)
- From SAN to NAS (unified) to Object
- Zero downtime is required



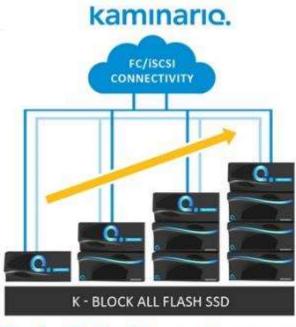


Scale out storage









Scale Out - Linear Increase of capacity, throughput, IOPS and connectivity



Will scale out storage lead the way to Software Defined Storage?



First steps in SDS installed on standard servers!









ScaleiO



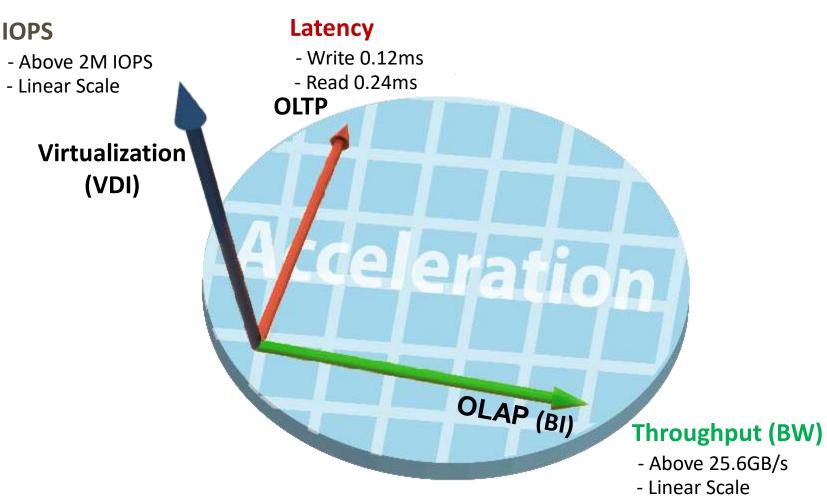
Software Defined X has tactical but also strategic implications (discussed later)



Storage performance dimensions - all flash perspective

Flash array is more affordable with

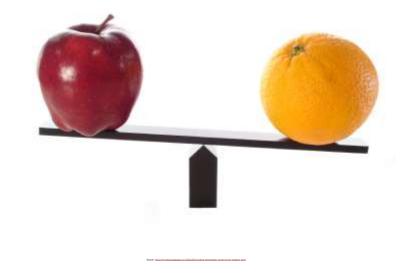
- In-Line De-Duplication –
 Best for Virtualization and
 VDI
- In-Line Compression –
 Best for OLTP and OLAP





Advanced storage solutions (VPLEX, SVC, etc.)

- Users already see value from these solutions:
 - Stretched cluster over 2 locations (without geocluster)
 - Same site higher availability
 - No downtime for migration
 - Advanced functionality based on low cost storage
- However, users should look at
 - Change in the storage processes
 - Problem resolution might take more time
 - These solutions rely heavily on storage network capabilities





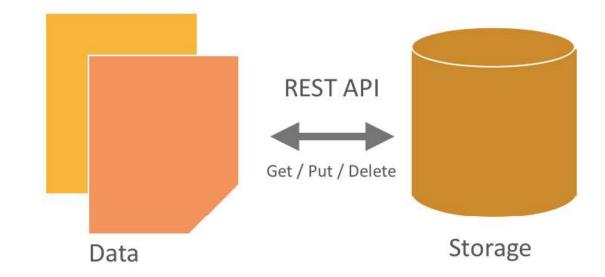
Advanced storage solutions are not "silver bullet". "Try and Buy" is preferred tactics in this case.





Object Storage

- Stores "object" and not files or blocks. Identify objects by OID (not the "name" of object)
- Only <u>create</u>, <u>read and delete</u> operations are supported. <u>No update</u> so there are no locking conflicts. This also enables easy copy of objects in different nodes\sites for DR.
- Theoretically with no limits (does not rely on file system\volume that is limited by total size, number of files, name of files)
- Custom metadata (can include thumbnail, audio\video preview, etc.)
- Enables Web protocols (Rest\Soap). Also enables multi tenancy ("sub administrators")



PUT http://swift.example.com/v1/account/container/new_object

GET http://swift.example.com/v1/account/container/



Cloud Storage Gateway





STKI Summit 2014 Frame tale: The System manager







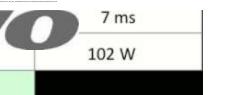
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What's in the DC? Servers!

- Small form-factor, system-on-a-chip boards, which pack the CPU, memory and system I/O onto a single integrated circuit
 - Less cooling than their traditional counterparts,
 - Packed together to save physical space



..The prices Fidelity pays for servers have declined 50% over the 2-1/2 years since the company started buying OCP-inspired systems from the custom builders..



Source: Calxeda

IBM is selling its Intel servers. Wow!

 How can we buy critical equipment made in China (from security=cyber point of view)?



That was a joke! We already do!



Major customers [edit]

Major customers of Foxconn include or have included:

- Acer Inc. (Taiwan)^[42]
- Amazon.com (United States)^[9]
- Apple Inc. (United States)^[43]
- BlackBerry Ltd. (Canada)[44]
- Cisco (United States)^[45]
- Dell (United States)^[46]
- Google (United States)^[47]
- Hewlett-Packard (United States)^[48]
- (aquator of bandauarters in paraethoses)

Microsoft (United States)^[49]

- Motorola Mobility (United States)^[46]
- Nintendo (Japan)^[50]
- Nokia (Finland)^{[43][51]}
- Sony (Japan)^[10]
- Toshiba (Japan) [52]
- Vizio (United States)^[53]
- Micromax Mobile (India)

Source: WIKI





Go back to selection Rows with differences are highlighted	Click to remove Intel® Xeon® Processor E7 v2 Family Intel® Xeon® Rocessor E7 v2 Family Intel® XEON	Click to remove Intel® Xeon® Processor 5000 Sequence Intel® Xeon® Processor 5000 Sequence Xeon® Intel® Xeon® Intel® Xeon® Intel® Xeon® Intel® Xeon® Intel® I	Click to remove Intel® Atom™ Processor for Server
Essentials			
Processor Number	E7-8890V2	X5690	C2350
Launch Date	Q1′14	Q1′11	Q3′13
# of Cores	15	6	2
# of Threads	30	12	2
Cache	37.5 MB	12.0 MB	1.0 MB
Clock Speed	2.80 GHz	3.46 GHz	1.70 GHz
Max Turbo Frequency	3.40 GHz	3.73 GHz	2.00 GHz
Bus/Core Ratio	-	26	-
Bus Type	QPI	QPI	-
Instruction Set	64-bit	64-bit	64-bit
Instruction Set Extensions	Intel® Advanced Vector Extensions (Intel® AVX)	SSE4.2	-
Lithography	22 nm	32 nm	22 nm
Scalability	S8S	-	
Max TDP	155	130	6
VID Voltage Range	-	0.750V-1.350V	- ti

The increase in number of cores is good news for infra SW vendors that base their charge on cores: IBM, Microsoft, Oracle, etc.





STKI Summit 2014 Frame tale: The Endpoint manager







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Endpoint computing - Microsoft

Big investment in the Enterprise market













2014-2015 Microsoft's strategic challenge lies not within enterprise but within the home consumers' and startups\internet companies



Thin\Zero clients

- Thin clients provide reliable, secure and green end point computing solution
- Mostly used in SBC environments running ICA\RDP\PCOIP protocol
- Large variety:
 - Fully functional and adaptable (but small) PC running Windows Embedded
 - Medium functionally lighter footprint devices based on Linux or Windows Embedded Compact
 - Zero clients: No OS\GUI, could be based on onetime programmable memory, boot from network or run a specific HW (Teradici card)
- Small footprints are more secure and lightweight but are difficult to update when needed







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STKI Summit 2014 Frame tale: IDM project manager



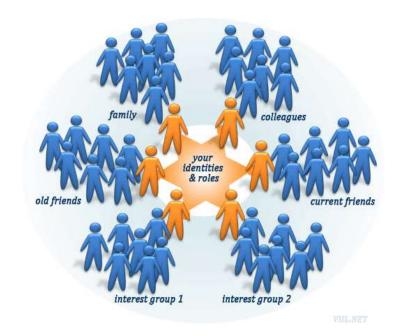




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Are you really you?

- How can you know that "Avi" —CFO in your business is not someone else? Another employee?
- How do you recognize your employee and your customers?
- How do you know that "Avi" had the correct permissions to access enterprise resources?
- If "Avi" moves to another role, what are his new permissions/access?







Identity Theft

2 Million Stolen Passwords Recovered

326,129 Facebook passwords (59%)

70,532 passwords for Google (13%)

59,549 for Yahoo (11%)

21,708 for Twitter (4%)

8,490 LinkedIn (2%)









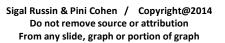




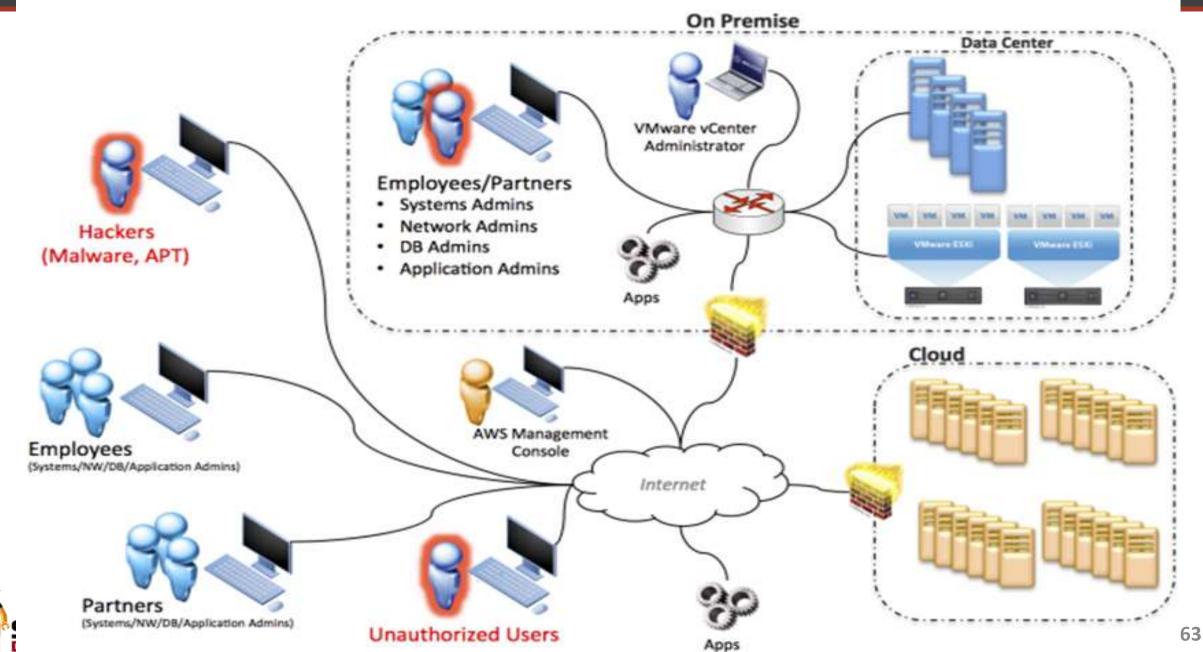


You have to protect your sensitive business data from outsiders (especially your employees) - take control over the identities & their accesses!





Control your sensitive business data





Why should we manage our identitys?

Employees having difficulty remembering all of their accounts and credentials.

Cloud integration within a local network, collaboration with multiple cloud suppliers.





Strict legislation and regulations

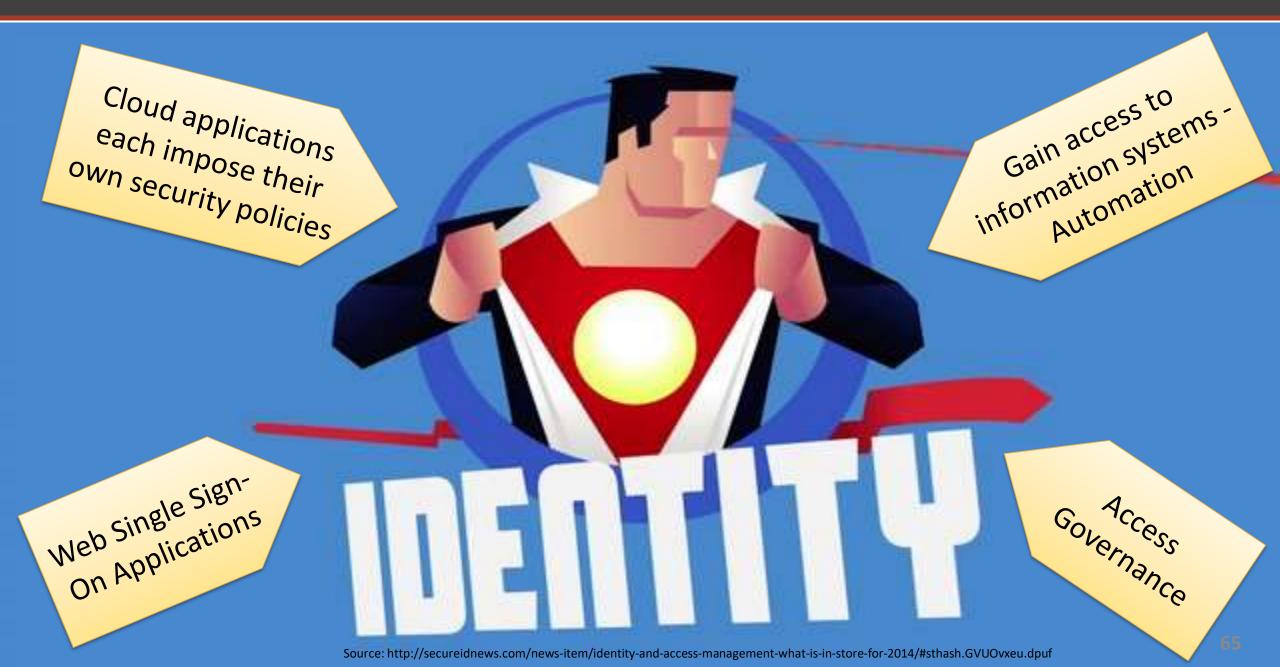
Make information widely available to members of a business





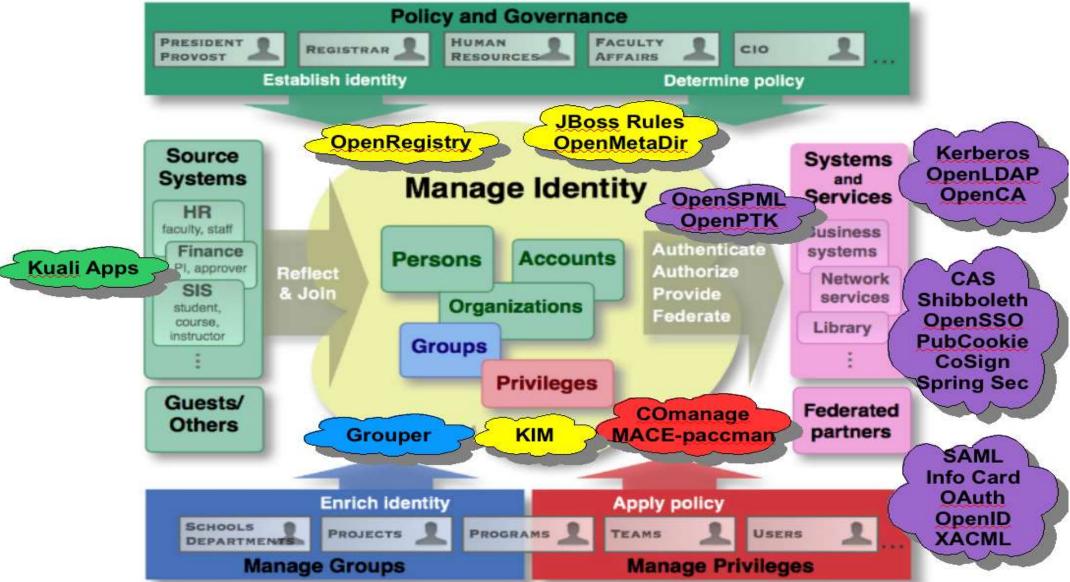
Source: http://secureidnews.com/news-item/identity-and-access-management-what-is-in-store-for-2014/#sthash.GVUOvxeu.dpuf

Technologies to control your ID



IDM is not an easy project

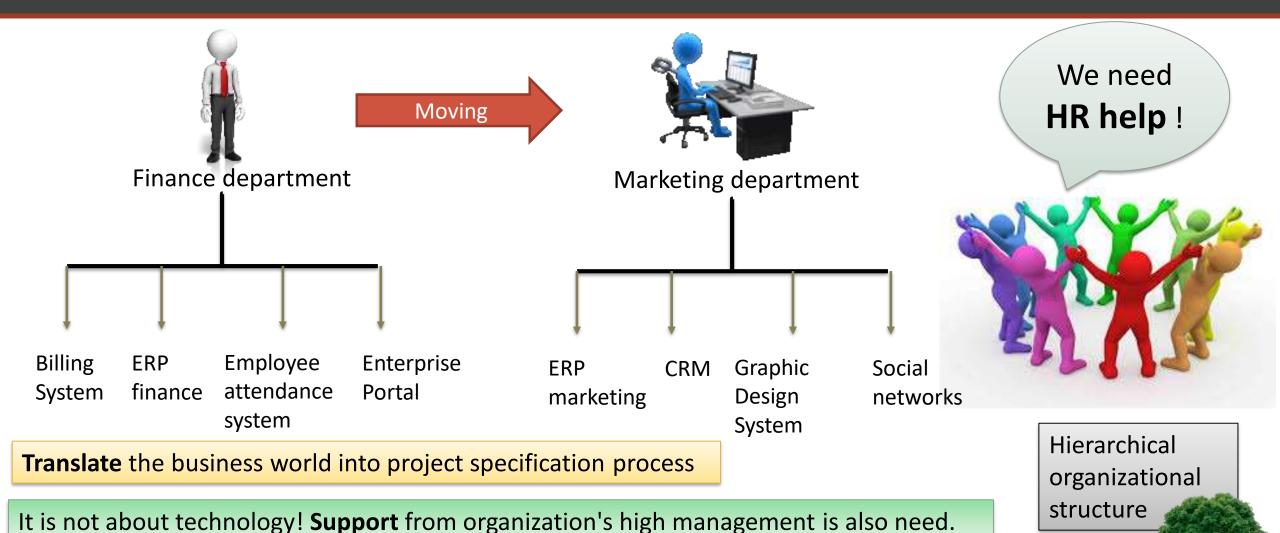
OpenSource Identity Management



rivili ally sliue, grapil or portion or grapil



Why we need IAM?



Matching expectations of project initiators, users and decision makers



Insights from Customer Roundtables

Cross organization project, need management support and reness.

HR must lead to identity & access management project!

Regular maintenance and huma

Most of these projects are failed or stopped (budget, support, maintenance etc.)





STKI Summit 2014 Frame tale: Software manager







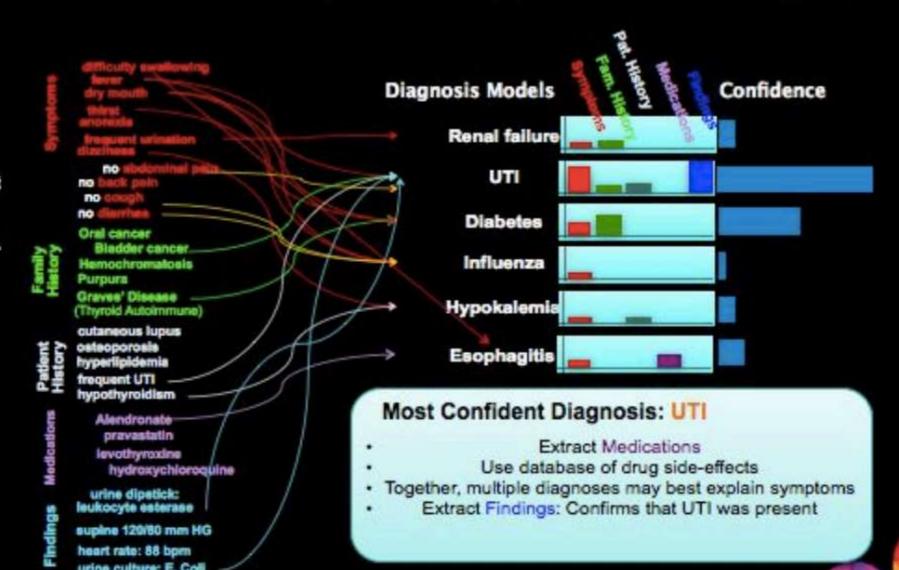
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Putting it together at point of impact can be life changing

Findings

A urine dipatick was positive for leukocyte esterase and nitrites. The patient given a prescription for ciprofloxacin for a urinary tract infection. 3 days later, patient reported weakness and dizziness. Her supine blood pressure was 120/80 mm Hg, and pulse was 88.





Second Machine Age

First Machine Age (Industrial Revolution; 1700s.)

- This period was all about **power systems to augment human muscle**, and each new invention delivered more and more power. But they all required humans to make decisions about them.
- Inventions of this era actually **made human control and labor more valuable** and important.

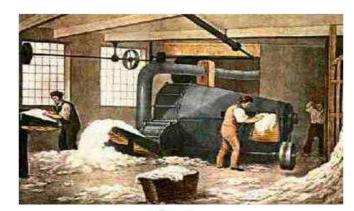
Labor and machines were complementary

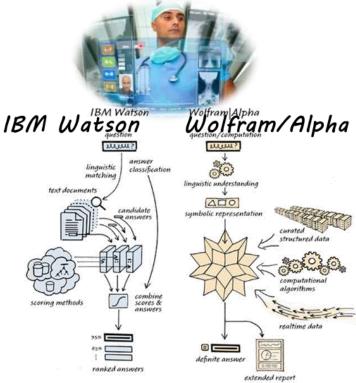
Second Machine Age (starting 2006-8)

- We automate a lot more cognitive tasks and machines can make better decisions than humans.
- Three advances:
 - **Exponential:** relentless increase of digital inventions
 - <u>Digital</u>: the internet, the APP and API economies
 - Combinatorial: take Google Maps and combine them with an app like Waze
- Our generation can <u>rely on fewer people and more technology</u>.

Humans and software-driven machines may increasingly be substitutes, not complements

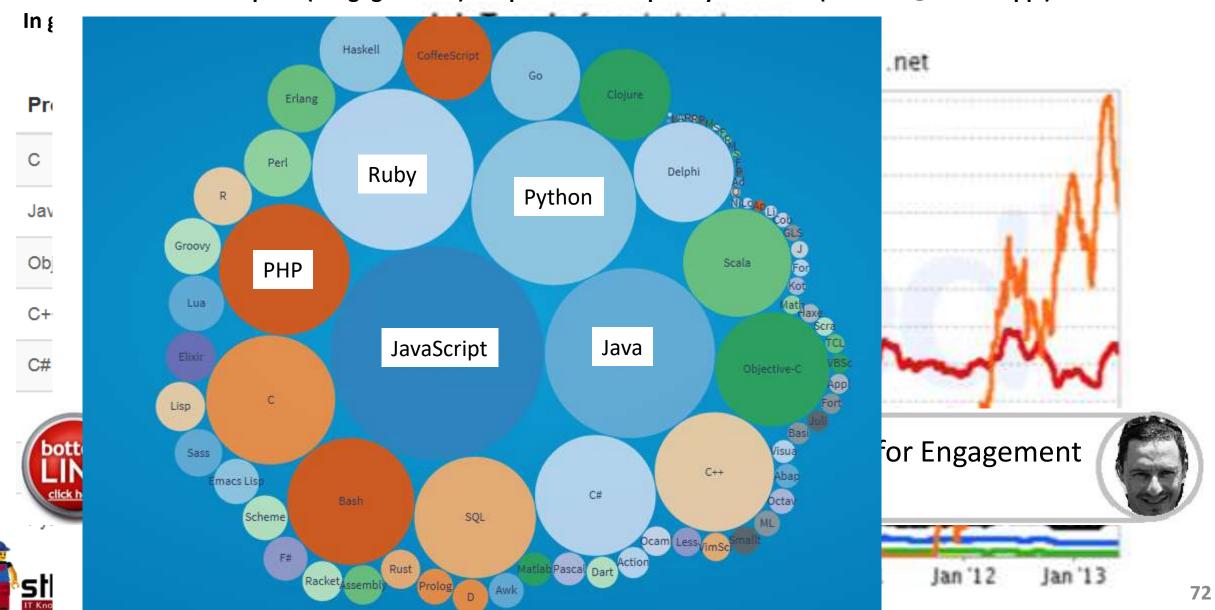






System of Engagement programming languages

But for "new developers" ("Engagement") the picture is completely different (code123@herokuapp)



API Economy - new business based on API!



From an

Example for API Economy

- No more Banking APPs!
- Instead of making the "perfect"
 Banking app AXA bank announced a competition: "Retail Banking App
 Grand Prix by AXA Banque"!



REST Files and Libraries



Introduction

Welcome to the AXA Banque's API home page!

You will find the following content:

- · an overview of the API and its guiding principles
- · some documentation details regarding services
- some samples

What does this API provide?

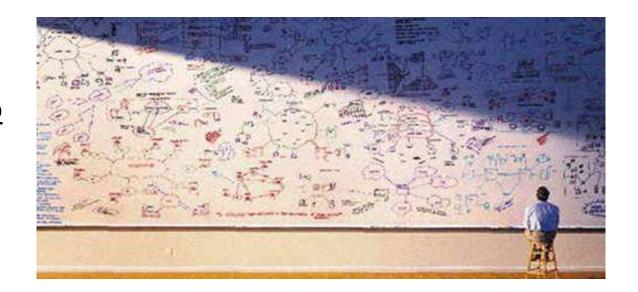
This is a communication protocol to access the Bank's information system which contains client banking data: Cash account data and all credit cards payments. In other words, this is a secure "entry door" allowing software developers to make the best possible usage of customer retail banking data (cash accounts and credit cards), under the condition the client has agreed to. None of the client's access codes (user id and password) will be disclosed at any point in time to developers. Data are updated every night.





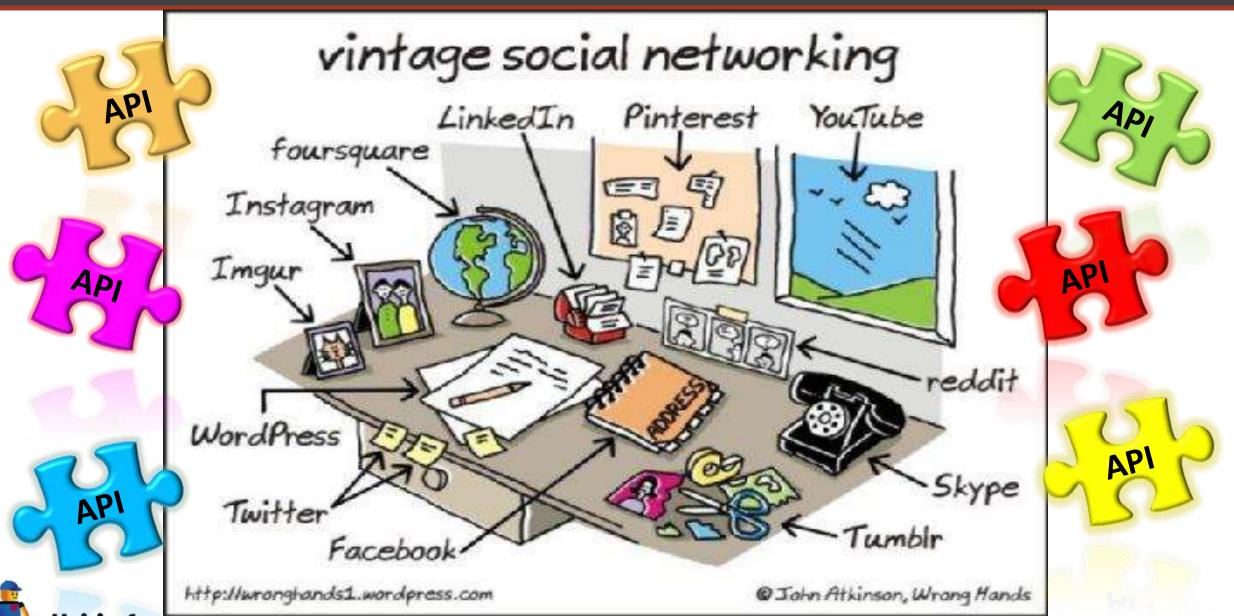
Wait a little before you enable APIs!!!

- Myths vs. Reality:
- Myth: I should enable my internet API to the "market developer"
- Reality: The internal\standard API's probably will be too fine-grained, too confusing and too complex to the "market developer"
- Reality: Companies should hire a <u>product</u> manager for defining the APIs

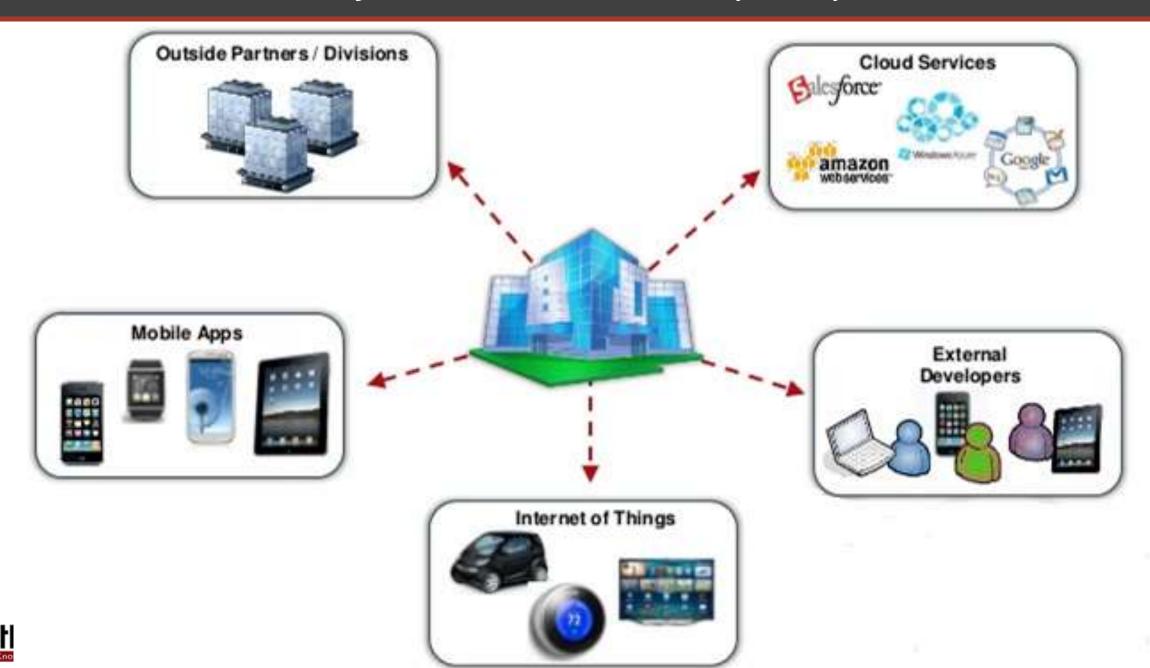




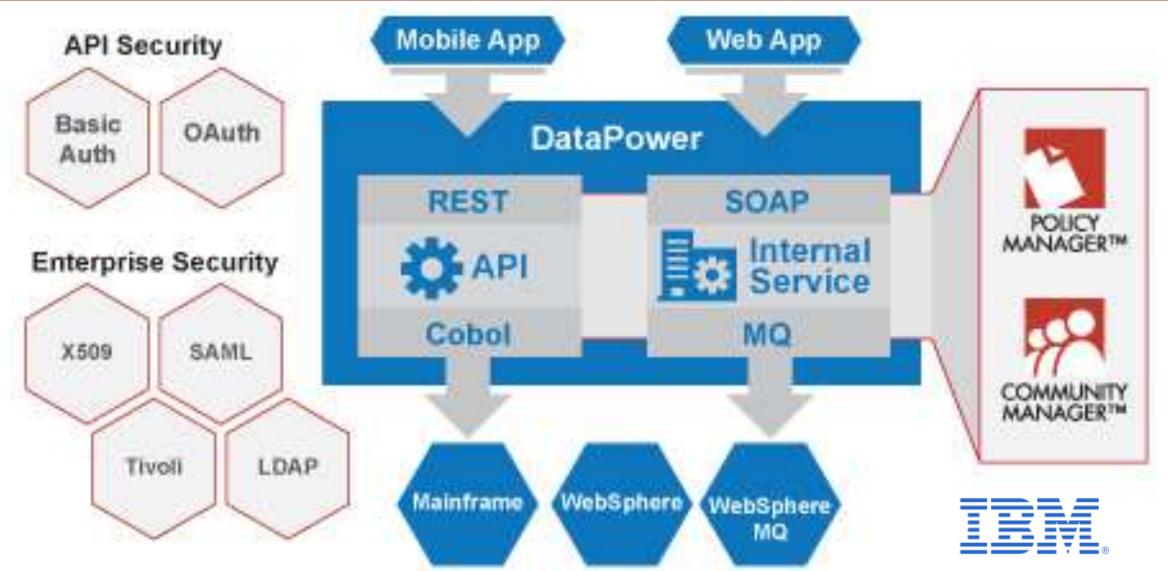
API management & Security



Organizations must to open up



API Management & Security Vendors





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DoS Attacks Against APIs

PayPal reports "Sorry — your last action could not be completed" November 2010



Amazon Web Services (AWS) was hindered from recovering from a power outage by a huge increase in API errors.

June 2012



If you increase use of APIs, make sure you are paying attention to DoS attacks.



Multiple
access
control
methods are
necessary.

use **HTTPS** and more strong authentication mechanisms

OAuth, mutual (two-way) TLS (transport layer security) authentication saml (security assertion markup language) tokens



Source: https://blog.apigee.com/detail/a growing threat dos attacks against apis

API-centric architecture meet security requirements

Developer

 Ability to create and deploy apps and configure security (not code) via the API and self-service management portal



API architect

 Ability to securely expose the backend services with necessary authentication, authorization, and threat protection



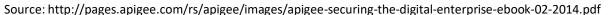
Security architect

Protect high value
 assets (sensitive
 data) that are being
 exposed via APIs,
 while meeting
 enterprise security
 standards for
 authentication,
 authorization, and
 auditing (AAA)

Application/business owner

 Ability to manage availability, risk, and compliance when delivering an API service to end users accessing from any device at anytime





STKI Summit 2014 Frame tale:

Although I did not meet with every department yet I feel that a "unified delivery model" is missing





STKI Summit 2014 Frame tale: Basic Delivery Model



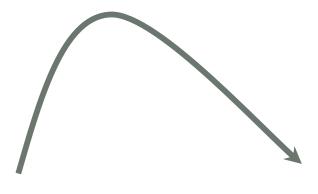




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In delivery we have... and we do...







We do activities (operations) on the things:

Install, delete, copy, config



We have Things:

disk, server, DBMS, App server code, dll

Source http://abduzeedo.com/things-neatly-organized

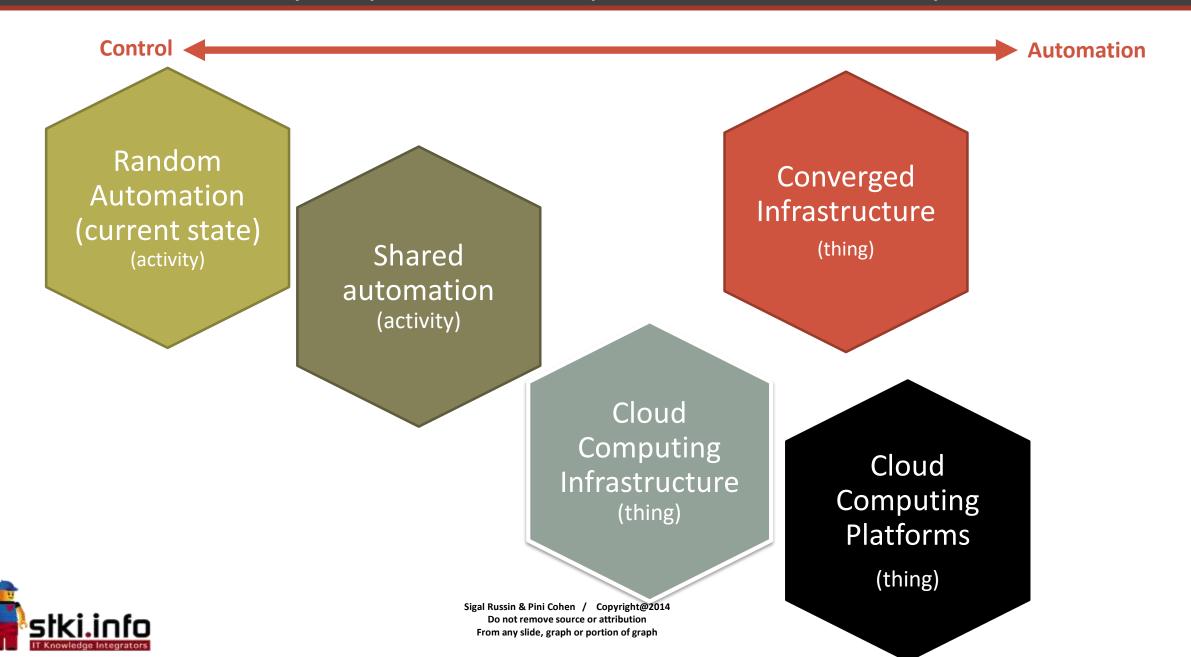
How can we make our life better?

- Do the activities\operations better
- Have better Things
 - Have things that have embedded activities\operations

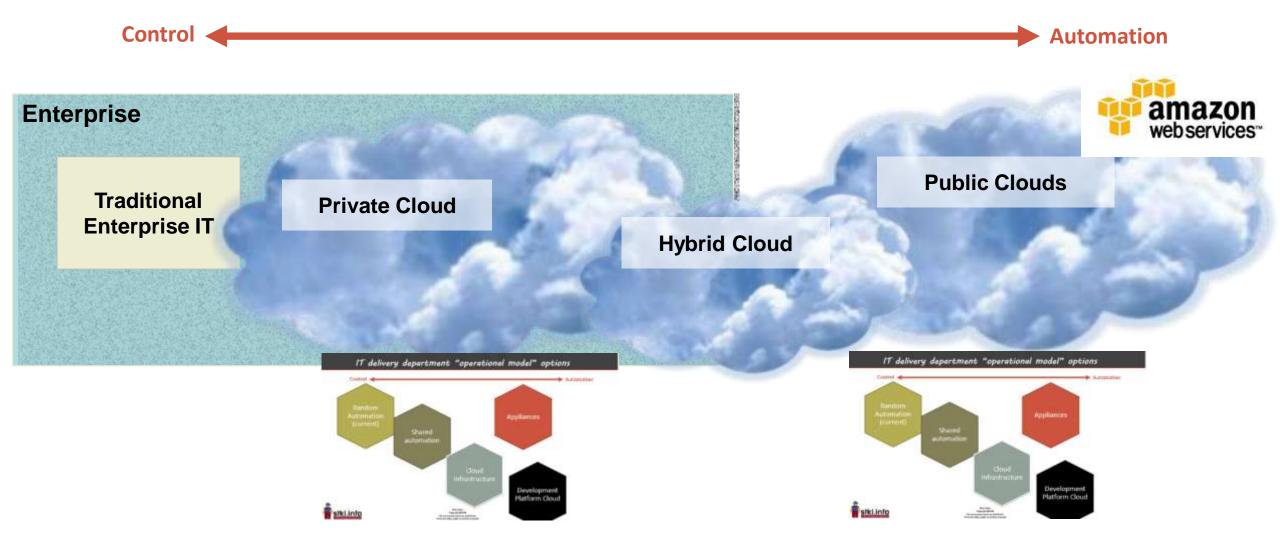




IT delivery department "operational model" options



Theoretically, you can deploy these operational models everywhere





Source: IBM Market Insights, Cloud Computing Research, July 2009. STKI modifications

Converged Infrastructure= Extreme IT





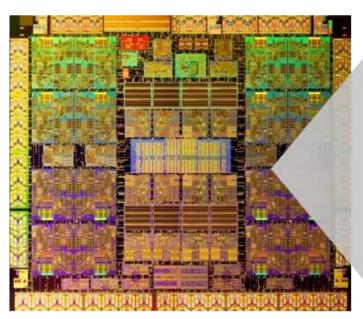








Moving Oracle Database & Java Software Functions into Hardware



Software in Silicon

- Database query acceleration
- Java acceleration
- Application data protection
- Data decompression

You can't have "software on silicon" on commodity HW....



From any slide, graph or portion of graph

Converged Infrastructure = Extreme IT

- Appliances promise:
 - **❖** Easy to Install\maintain
 - Better performance
 - Less down time (planned)
 - Predictable and smooth growth
 - Lower TCO is claimed

- **❖**However:
 - Entry\upgrade cost could be high
 - The appliance can be rigid (you can't install everything)
 - ❖ Vendor Lock-In situation
 - Internal politics should be resolved before (network vs. storage vs. system)

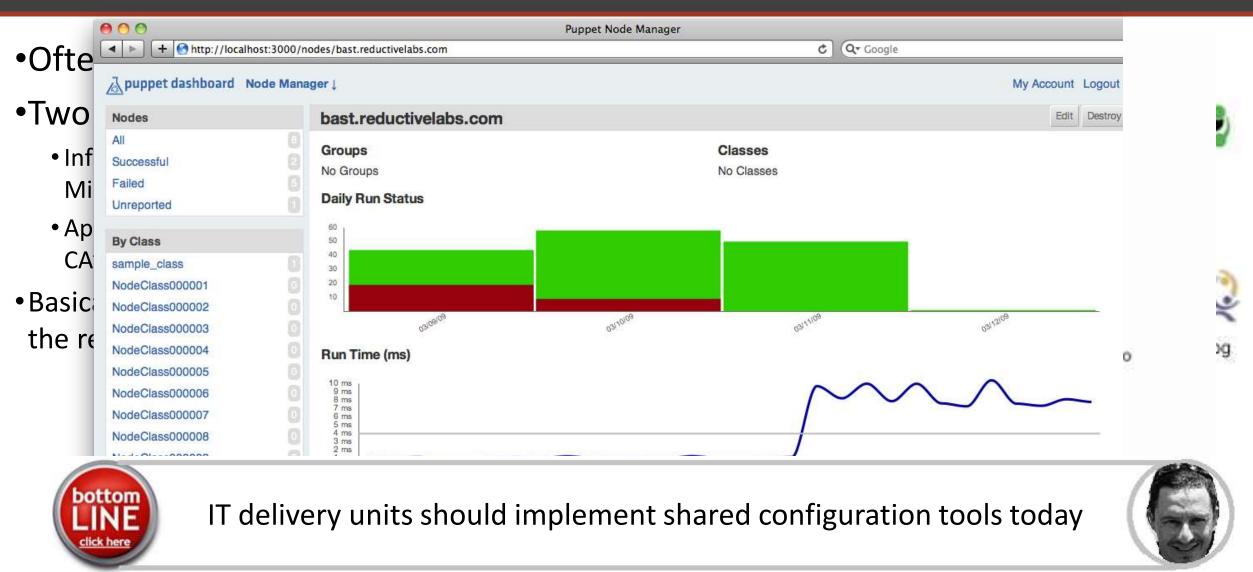


Converged Infrastructure are viable option but will not be the main stream delivery model in the next 2-3 years





Shared Deployment\ Automation \Config. Mng. tools

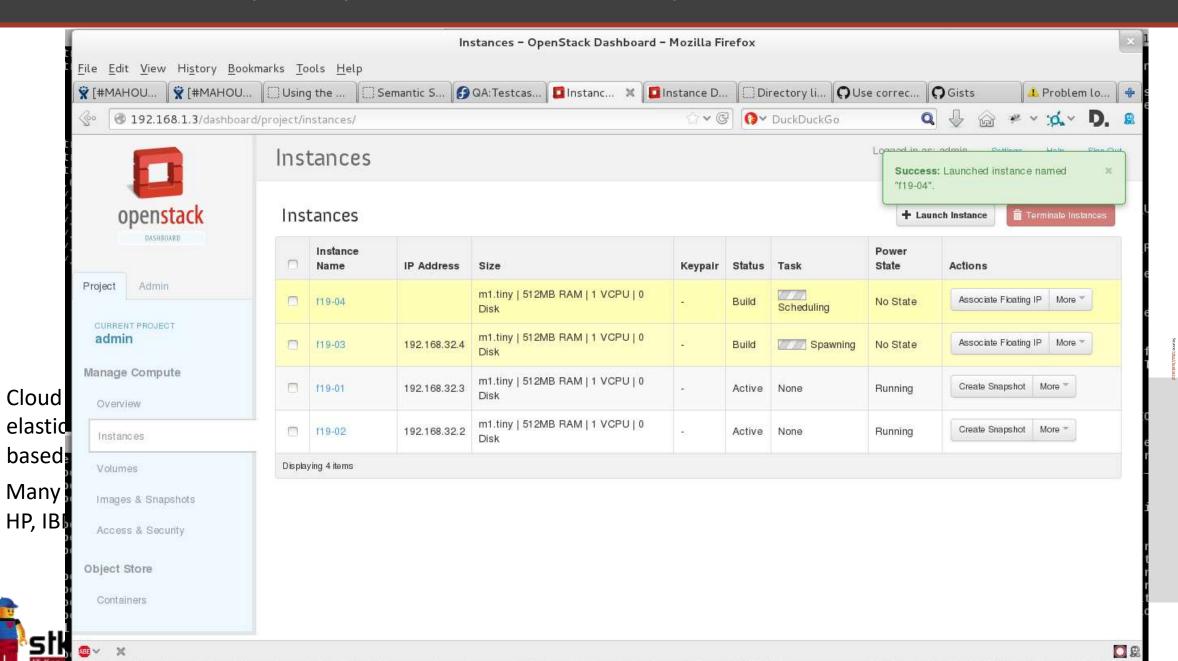




126 0 03/12/09 04:54pm 8.08 NodeClass000015 NodeClass000016 03/12/09 04:24pm 126 0 7.29 NodeClass000017 03/12/09 03:54pm 126 0 7.54 odoClassO00019

ollector

Cloud Computing Infrastructure: Openstack basic architecture



Is Infra cloud\laa5 the best thing we can have?

Craftwork

Physical

How to Build an App:

- 1. Have Idea
- 2. Get Budget
- 3. Submit hardware acquisition request
- 4. Wait
- Get Hardware
- 6. Rack and Stack Hardware
- 7. Install Operating System
- 8. Install Operating System Patches/Fix-Packs
- 9. Create user Accounts
- 10. Deploy framework/appserver
- 11. Deploy testing tools
- 12. Test testing tools
- 13. Code
- 14. Configure Prod servers (and buy them if needed)
- 15. Push to Prod
- 16. Launch
- 17. Order more servers to meet demand
- 18. Wait...
- 19. Deploy new servers

Etc.

Virtualized

How to Build an App:

- 1. Have Idea
- 2. Get Budget
- 3. Submit VM Request request
- 4. Wait
- 5. Deploy framework/appserver
- 6. Deploy testing tools
- 7. Test testing tools
- 8. Code
- Configure Prod VMs
- 10. Push to Prod
- 11. Launch
- 12. Request More Prod VMs to meet demand
- 13. Wait
- 14. Deploy app to new VMs
- 15. Etc.

Assembly Line

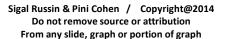
With PaaS

How to Build an App:

- 1. Have Idea
- 2. Get Budget
- 3. Code
- 4. Test
- 5. Launch
- 6. Automatically Scale

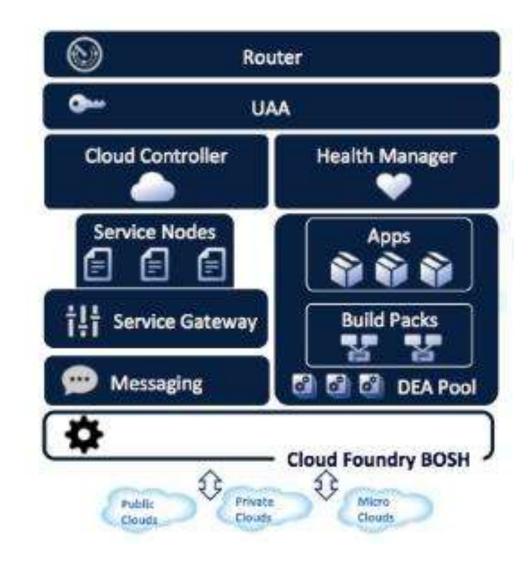


"The use of Platform-as-a-Service technologies will enable IT organizations to become more agile and more responsive to the business needs." –Gartner*



Cloud computing platforms - What's the big deal?!

- Basically, enables the developer to just write a (portable) code. Comes with built in "things" and "processes".
- Can be deployed either in private or in public clouds
- Might consume services from Cloud Infrastructure (typical VSPHERE, Openstack, AWS).
- Mostly the basic entity relys on Containers (on Hypervisor)

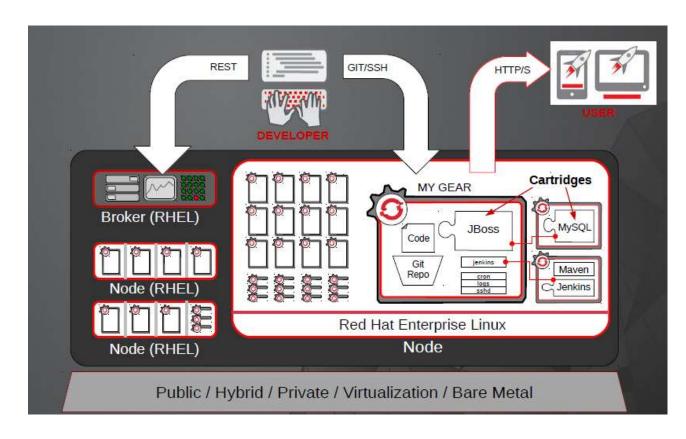




Source: cloud foundry

Cloud computing platforms\continued

- Comes with ready made services (DBMS, messaging, source control module, monitoring, etc.)
- Users \3rd party can add more services
 - Services are integrated to the platform (example if I add "Oracle" to PaaS I don't to write manually "create data source")
- With minor updates of services (either basic or added by user\3rd party) applications are just restarted to get the new service version
- Comes with pre-build processes Dev (source control, continuous integration) → Test → Deploy)
- Players mentioned: EMC (Cloud Foundry), Redhat (Openshift), Docker, IBM, Microsoft and many pure public offering (Salesforce\Heruku, Google app engine, Microsoft's Azure)



Source: openshift redhat



Cloud Platforms and SDX

The set of plugins included in the main (Openstack) Neutron distribution and supported by the Neutron community include (partial list):

- Open vSwitch Plugin
- •Cisco UCS/Nexus Plugin
- •Nicira Network Virtualization Platform (NVP) Plugin
- Ryu OpenFlow Controller Plugin
- •NEC OpenFlow Plugin



Platform and SDX wars example:





"OpenDaylight was formed by Cisco and IBM to develop an open source OpenFlow controller.... But... OpenDaylight is a <u>defensive</u> maneuver to dampen the potential of OpenFlow and SDNs to usher in a <u>"white-box" upheaval</u> of network infrastructure as a virtualized commodity.... "

Source: http://www.networkworld.com/community/blog/cisco-ibm-defensive-opendaylight



Standards are evolving and (unfortunately...) FUD is part of the process

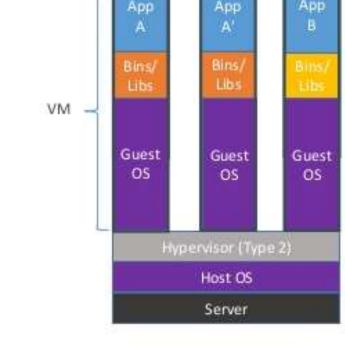


Ria data DayOne Internation

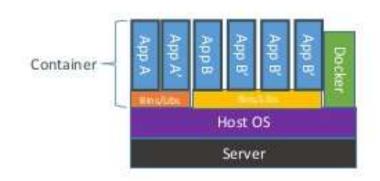
Containers vs. VMs







Containers are isolated, but share OS and, where appropriate, bins/libraries



empowers people-centric IT

enables modern apps



Cloud Computing Platform



and should be examined





WINDOWS

AZURE

STKI Summit 2014 Frame tale:

The CEO has also emphasized the importance of security . What's the big deal?!





STKI Summit 2014 Frame tale: The security\cyber manager







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Security Cyber

- How much time (in seconds...) can organization operate properly without good defense?
 - ✓ Do you have information that needs to be kept confidential (secret)?
 - ✓ Do you have information that needs to be accurate/ Integrity?
 - ✓ Do you have information that must be available when you need it?

Solution: Cyber Security Plan.



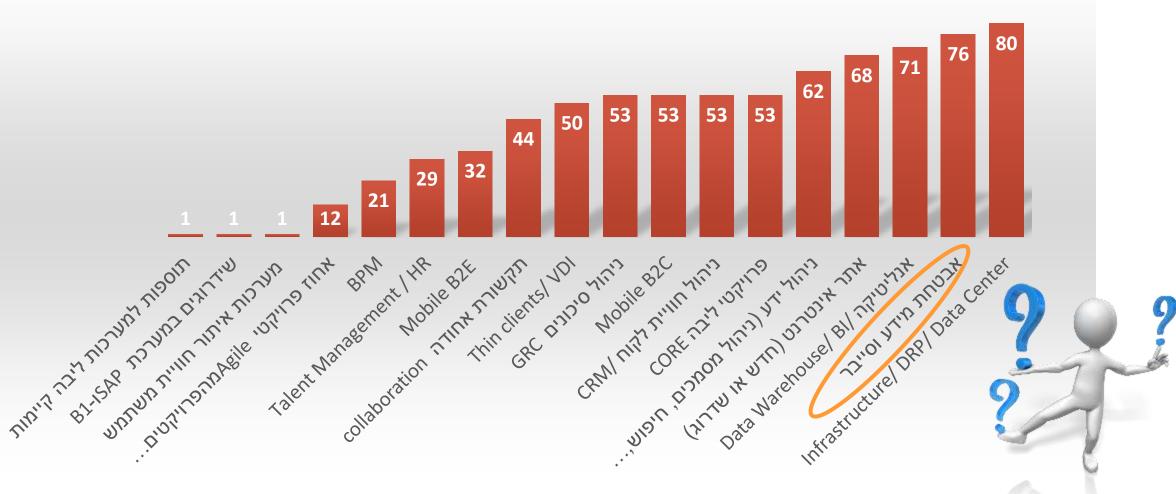






STKI Survey CIO 2014 - Again Security Domains

תחומי הפרויקטים, אשר החלו בארגונך ב-2013 / מתוכננים ל-2014





Beware of Unknown Security Threats

74%

Respondents experienced a security breach or incident of concern within the last 12 months



98%

of IT decision-makers say they are concerned about security



Average time to detect a breach



\$25.8 Billion

Annual cost of breaches, as a result of security gaps and vulnerabilities both inside and outside the network, endpoints and devices*



Cyber Intelligence





Challenges in Cyber Security

Expanding threat landscape

The increased complexity, number and sophistication of incoming threats have led to a fragmented infrastructure approach for security provision, which is **inefficient, risky and a nightmare to manage.**

End-point consumerisation: IOT and M2M explosion

An increase in the number and variety of devices connected to the Internet increases the opportunity of security breaches by orders of importance. Most security infrastructures are completely unprepared for the escalation in event numbers and types.

Skills lack

The lack of availability of cyber security skills is very influence. Despite the professional associations that provide security accreditation, there is still a **major lack of resource with the right skills and experience** to cope with cyber security market demand. **Salaries of experienced security analysts are increasing** substantially, and staff retention is proving elusive.



 $Source: http://www.icontact-archive.com/oVcotBdZudhBcQahFd9aCVMmrT_AgJpG?w=4$

Insights Customer Roundtable

Every organization approaches Cyber differently. Some customers use existing information security tools.

There are customers who are trying to test **new tools** related to cyber such as forensic and APT tools.

Most organizations are working to increase **awareness** among employees in different ways and the importance of the organization's information security policy.

Mobile also brings the expansion of EP in endpoint security.



How to deal with Cyber?

Adopt security
services on the cloud
like: email & web
filtering.

Cyber intelligence:
"Modiin" Cyber from
the internet.



Adopt integrated and holistic cyber security solutions like forensics tools for network & EP.

Context-based data security: DLP tools for data, files: privacy, location, risk profile.



IT is not only changing information security tools but also an <u>internal</u> <u>vision</u> of security inside your business.





150 27032

Information technology — Security techniques — Guidelines for cybersecurity

- ✓ Published in 2012.
- ✓ Defined as the "preservation of confidentiality, integrity and availability of information in the Cyberspace".
- ✓ Main sections:
- Overview
- Assets in the Cyberspace
- Threats against the security of the Cyberspace
- Roles of stakeholders in Cybersecurity
- Guidelines for stakeholders
- Cybersecurity controls
- Framework of information sharing and coordination
- Annex A. Cybersecurity readiness
- Annex B. Additional resources
- Annex C. Examples of related documents









STKI Summit 2014 Frame tale: Other important roles and issues





IT procurement
Organization model
Legacy
BSM ITSM



"אלוהים נמצא בפרטים הקטנים..."

To opensource or not to opensource



 Australia and soft

צה"ל מתקרב לסטארט־אפים: יגדיל השימוש בקוד פתוח

כר הגידול העיקרי לאנשי טכנולוגיה בישראל מנסה לשנות תפישה ולאמץ שפות תכנות חדשניות: "בעוד כמה שנים יותר מ-50% מהמערכות בצה"ל ישתמשו בקוד פתוח", אומר מפקד היחידה הטכנולוגית למחשוב מבצעי

הוסף תגובה

מאת: **אור הירשאוגה** | 04.03.2014 | 07:24

Recommend Share < 357

₩ Tweet

g+1

Android

iPad iPhone הורד ללא תשלום את אפליקציות TheMarker:

לתגובות (13)

הדפס 🖨

שלח לחבר 🗹

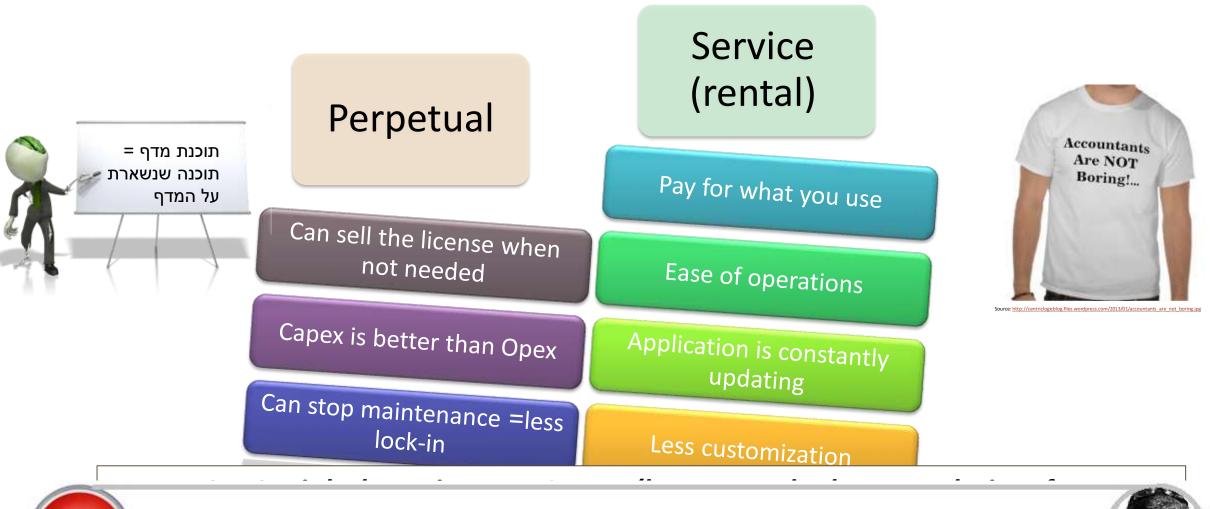
שמת במוווימב

באחד המחזורים הקרובים של בית הספר למקצועות המחשוב בצה"ל, ילמדו החניכים לתכנת בפיית'ון, אחת משפות התכנות המבוקשות ביותר כיום בסטארט-אפים בישראל ובעולם. זו תצטרף אל שפת תכנות נוספת ion



ource software

Is SaaS better or worse than Perpetual?



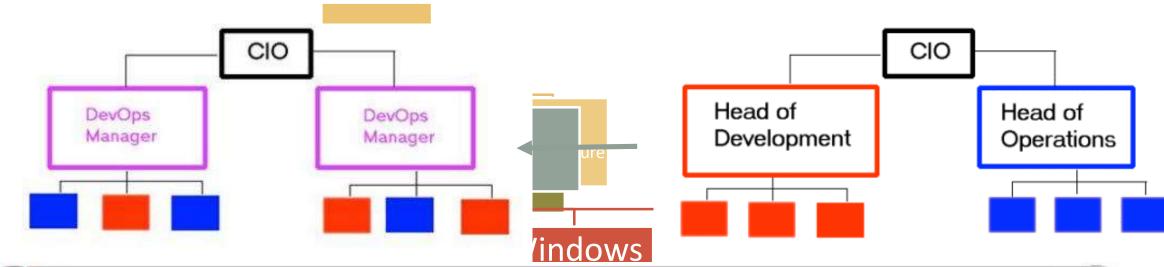


SaaS deals are not better nor worse – just different!



How to organize the delivery department?

- Large variety of organization structures:
- Devops is pushing Delivery to a different organization structure!





Devops organization is a bit too radical.

System, Storage and DC Network should report to the same manager.





With organized teams, how do we keep legacy running?





BSM and ITSM trends

- Users expect to get (at least basic) BSM\CMDB from the platform clouds
- Even mature organizations sometimes forget the basic rule of BSM — the monitoring team should be legitimate part of change management process!
- •From ITSM to Employee-SM ("air-condition is leaking", "order pencils", "order tickets for festigal")





STKI Summit 2014 Frame tale:

The CEO also asked about: New Business enabling technologies 3D printing





3D printing

Printing Today – 2D Printing:

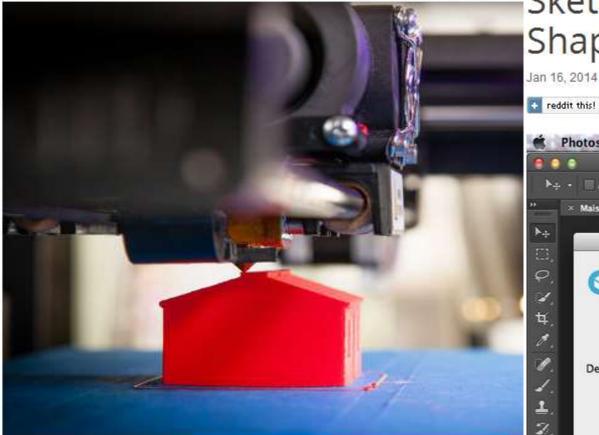
- Production time is too long
- High costs
- Lack of availability
- Need technical personnel to quote, specify
 and configure product for design & engineering integrity
- Slower product design
- Late design changes take time to integrate

The solution: 3D Printing







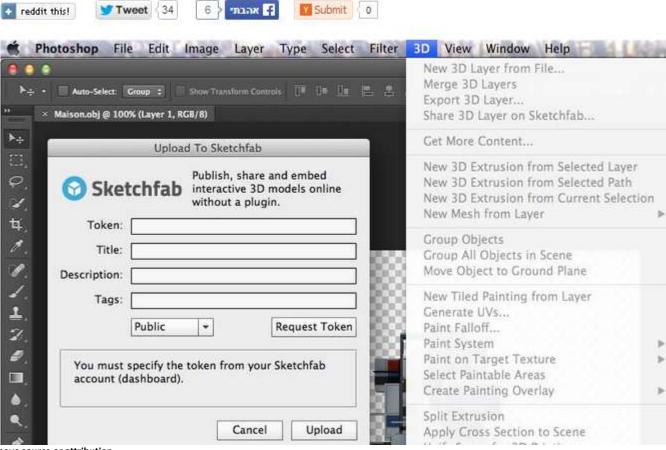


Microsoft's new operating system, Windows 8.1, will offer support for 3-D printers like

Microsoft Moves to Simplify 3-D Printing for Photoshop – partners with Sketchfab, Makerbot & Shapeways



Liam Boogar Contact author





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Coca-Cola Israel's Mini-Bottles



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The world's firs beautiful .45 ca

By James Plafke on November 7, 2013



תחקיר: עם אקדח מודפס, מטרים מראש הממשלה

קשה להאמין באיזו קלות אפשר להתנקש גם באיש המאובטח בישראל: מדפסת תלת-ממד וחומר פלסטי - זה כל מה שצריך. צוות "צינור לילה" של ערוץ 10 ייצר נשק ביתי קטלני, ירה בו כדור חי במטווח ועקף את מעגלי האבטחה של נתניהו בכנסת

Recommend < 1.5k

19:38, 03.07.13 :pone ynet

כמה קל להתנקש בראש הממשלה בתוך משכן הכנסת, שאמור להיות אחד המקומות המאובטחים בישראל? מתברר שעם הטכנולוגיה החדשה, אפשר להגיע עם כלי נשק קטלני למרחק יריקה מבנימין נתניהו. צוות של ערוץ 10 עשה זאת - הדפיס אקדח <u>במדפסת תלת-ממד</u> והצליח להיכנס פעמיים לכנסת.







3D Printing- Future Printing

Innovation

Win Business

Speed Time to Market

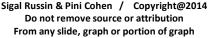
Reduce
Development
Costs

Improve Communication

Different Materials

Personalize products







STKI Summit 2014 Frame tale: Final words and summary







Lately "I was not happy" (corporate IT situation)

is som

Will corporate IT be the Last Dinosaur?!

sers

IT vs. None

IT

Using PC

IT buys the PC

Communicating via Email

Social networks is just starting part of Organization strategy – within the marketing departme Online and Batch applications

Using traditional voice and just VOIP

Either at Work or at Home



stki.info









This year is "Good Vibrations Year"

- Continuous integration with Jenkins (public organization). Agile development projects (Telcos, Defence).
- Open source code in governmental projects. Hadoop,
 NoSQL initial projects.
- •Users deploy CRM and other strategic application in SaaS. Corporate sites at Azure. Email at 365 and Google.
- Develop web apps in php, python. Users consider
 Puppet, Chef, Openstack.







Not in all organization. Not in all areas. But still, organizations starting to embrace contemporary technologies and processes!





The market is changing - Integrators \ Vendors perspective

- •Vendors are selling directly. Cloud vendors sell directly (no integrators are needed).
- Products are more mature- less knowledge is needed
- Strong IT divisions that can "fight" the vendors\integrators
- Products are commoditizing faster HW margins are much smaller - Highly competitive market





Integrators, the "middle man", feel the increasing pressure



The current "kings" are threatened

CISCO

Microsoft

HP

VMWARE

Oracle

Monitoring vendors
(CA BMC HP IBM)

Storage vendors
(EMC NETAPP, etc.)

Redhat

- SDN Openflow , Nicira
- Mobile market share
- Traction of startups and cloud providers
- Lower margins in printers, servers, PC
- Open source alternatives Openstack
- NoSQL\Hadoop
- Cloud \SaaS
- Monitoring is provided by platforms (cloud, PaaS, etc.)
- Publick Cloud
- Software Defined Storage
- NoSQL\Hadoop
- Centos



Please check yourself

Development

• If you do not develop web application with <u>modern languages</u> – php python ruby on rails

Data

• If you have not explored Hadoop\NoSQL

Infrastructure

• If you have not started to deploy devop tools.

Development

• If you are not deploying continuous integration

Development

• If you are not developing <u>agile</u> to some extent

Cloud

• Have something in <u>public cloud</u> (take things from DMZ)

Organization

• If you are not able to measure <u>network DC-storage-server</u> as a whole





Please check yourself

Security

• If you do not ready for cyber attacks (forensic tools, DLP, APT tools etc.)

IAM/IDM

• If you want to start an IDM project you need the <u>100% CEO support</u> and <u>HR should lead this project with IT.</u>

Networking

• If you have not started to explore **SDN** with applications.

UC&C

• If you are not deploying unified communication (VOIP+Video+Chat)

3D Printing

If you are don't know how this trend can help your business grow.



STKI Summit 2014 Frame tale:





Questions? Information? pini@stki·info sigalr@stki·info

Thank you!

