

The Principles for Cloud Computing E-Government Exchange Program # 3

คุณวิบูลย์ ภัทรพิบูล

ผู้อำนวยการฝ่ายให้คำปรึกษา

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Technology Trends 2014 (1/2)



1

• WEB-SCALE IT

During the past decade, leading cloud services organizations have been experimenting with new ways to deliver IT services. Their efforts have resulted in a singularity event that changed the trajectory of the IT landscape. Enterprise IT leaders ignore this development at their own risk

2

SMART MACHINES

IT leaders need to aggressively examine and act on the promise, threat and effects of smart machines on work patterns (man-machine collaboration), staffing shifts and enterprise business opportunities

3

• 3D PRINTING

3D printing transforms organizations, industries and markets. CIOs, CTOs and IT leaders must learn about and apply the key 3D printing trends that are driving changes to their organization

4

 THE ERA OF PERSONAL CLOUD As the personal cloud rises in importance, IT organizations will find current approaches to dealing with users will fail. IT leaders must be flexible and respond with new techniques, tools and policies, or risk irrelevance with their user base

5

 SOFTWARE-DEFINED ANYTHING Server virtualization is a mature technology but, as an IT initiative, it can still be disruptive to IT users and providers. Virtualization provides a foundation for software-defined anything, cloud computing and cost-effective, greener data center projects

Source: Gartner Top 10 Strategic Technologies 2014

Technology Trends 2014 (2/2)



6

 MOBILE DEVICE DIVERSITY AND MANAGEMENT Our consumer-driven, BYOD culture pressures IT leaders to give enterprise end users a wider range of device choices. Gartner's managed diversity model is a structured compromise that offers end-user device choice while protecting enterprise assets and supporting end-user productivity

7

 MOBILE APPS AND APPLICATIONS IT and business leaders supporting e-commerce should incorporate the five attributes of successful mobile apps, which improve the customer experience. Providing a valuable customer experience will increase mobile commerce app adoption, drive usage, and increase both loyalty and revenue

8

• THE INTERNET OF EVERYTHING

The Internet of Things will be big, but just how big depends on exactly what is included. This research helps business and IT leaders understand this emergent technology and applications, and describes how IT leaders can help identify significant new opportunities

9

 HYBRID CLOUD & IT AS A SERVICE BROKER No cloud service stands alone, but mastery over hybrid IT eludes all but a few enterprises. This road map prepares line-of-business managers and IT leaders to capitalize on the contributions that cloud makes to business process innovation

10

• CLOUD/CLIENT ARCHITECTURE

Enterprises are faced with the increasing power of mobile devices, the advantages of cloud computing as a delivery model for applications, and the need for better and more-differentiated user experiences. The client-cloud application model sits at the intersection of these trends

Source: Gartner Top 10 Strategic Technologies 2014







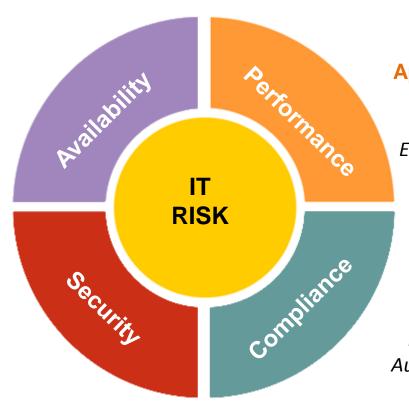


Natural Disasters and System Failures

Keep Systems Up Ensure Rapid Recovery

Internal and External Malicious Threats

Keep Bad Things Out
Keep Important Things in



Application Performance and IT Performance

Optimize Resources
Ensure Correct Configurator

IT Policy and External Regulations

Ensure Adequate Controls
Automate Evidence Collection



Natural Disasters and System Failures

Keep Systems Up Ensure Rapid Recovery







Service Level Agreement







Service Level Agreement

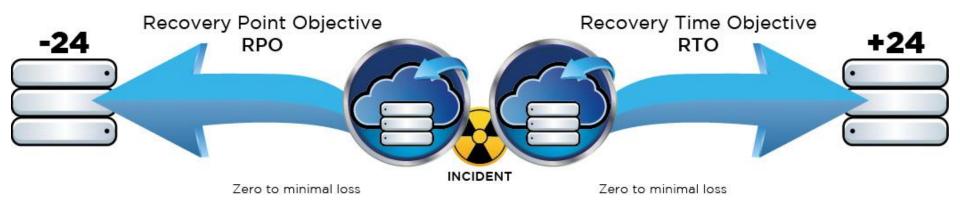


SLA 99.xx%





RPO vs RTO







Defining RPO/RTO Classes

Class 1:

RTO & RPO 4 Hours

Replicate

Hot standby (dedicated : insourced or outsourced facilities)

\$\$\$\$\$\$\$

Class 2:

RTO & RPO 24 Hours

Replication and/or off-site DR backups

In-house or Outsources

\$\$\$\$\$

Class 3:

RTO & RPO 72 Hours

• Hardware : standard recovery

 Outsourced usually more cost effective (hot site or mobile) \$\$\$\$

Class 4:

RTO 5 Day RPO 1 week

Quick-ship program most cost-effective location TQO

Standard recovery from tape

\$\$\$





Type of failover site

Mirrored Site

Hot Site

Warm Site

Cold Site

RTO

Instantaneous to 30 seconds

30 seconds to 30 minutes

30 minutes to 72 hours

Greater than 72 hours

RPO

Zero No data loss Zero No data loss > Zero Some Data Loss > Zero Significant data loss







Technology selective

Technology

Mirrored Site

(Premium)

Active – Active Site

Stretch IDC

Mirrored Site

(Standard)

Active – Active Site

Load Balance

Hot Site

Active-Standby Site

SRM (Private Link)

Warm Site

Off Site Disk Backup

SRM (Internet / NIX)

Cold Site

Off Site Tape Backup

Tape Backup





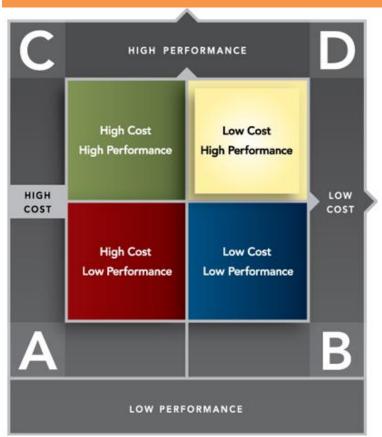
Application Performance and IT Performance

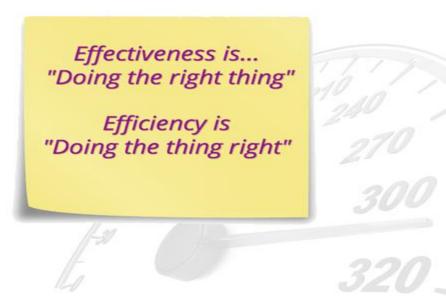
Optimize Resources
Ensure Correct Configurator



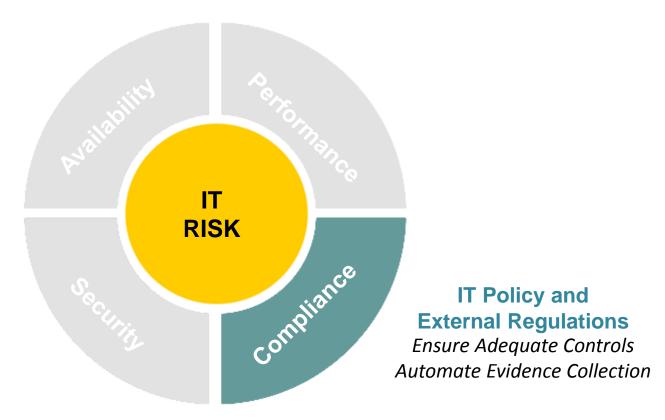


Effectiveness & Efficiency Framework



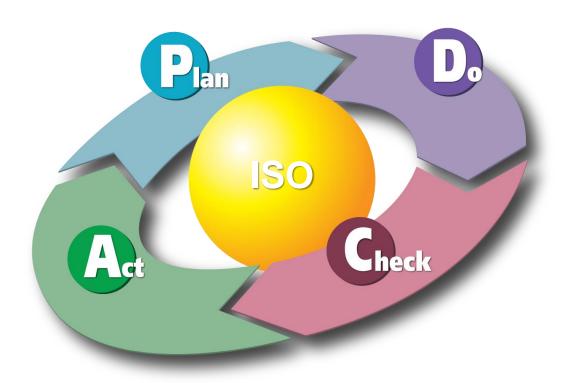
















ISO/IEC 27001

Information Security Management Systems

Keep your confidential information safe









ISO/IEC 20000-1

Information Technology Service Management

Always provide a high standard of service





ISO 22301

Business Continuity Management Systems

Minimize the impact of disruptive incident







Internal and External Malicious Threats

Keep Bad Things Out Keep Important Things in





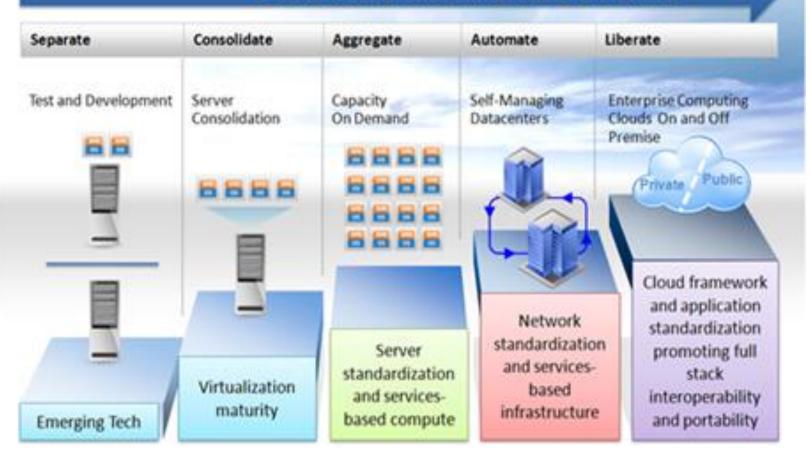
Cloud Security Alliance

https://cloudsecurityalliance.org/





DYNAMIC INFRASTRUCTURE



What is Cloud?

Conventional

- Manually Provisioned
- Dedicated Hardware
- Fixed Capacity
- Pay for Capacity
- Capital & Operational Expenses
- Managed via Sys admins



Cloud

- Self-provisioned
- Shared Hardware
- Elastic Capacity
- Pay for Use
- Operational Expenses
- Managed via APIs



What are the Deployment Models?



4 Deployment Models

Private cloud

- Operated solely for an organization
- May be managed by the organization or a third party
- May exist on premise or off premise

Community cloud

- Shared by several organizations and supports a specific community that has shared concerns (e.g., mission, security requirements, policy)
- May be managed by the organization or a third party
- May exist on premise or off premise

Public cloud

- Made available to the general public or a large industry group
- Owned by an organization selling cloud services

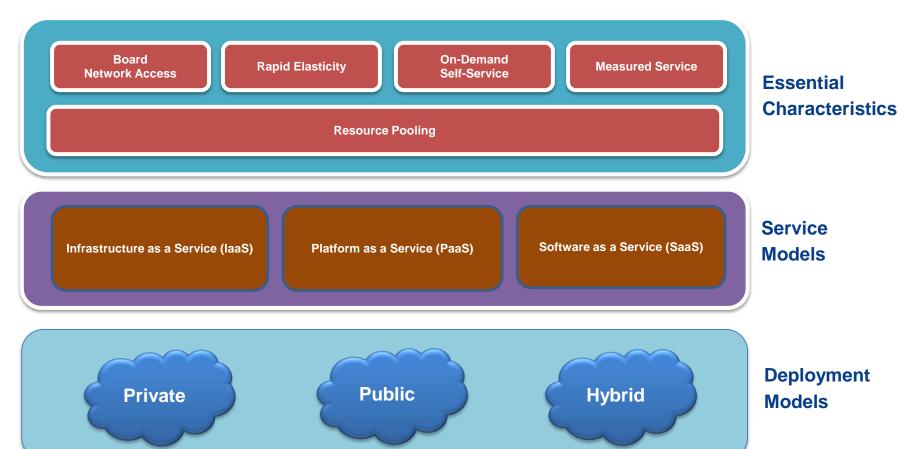
Hybrid cloud

- A composition of two or more clouds (private, community, or public)
- Remain unique
 entities but are
 bound together by
 standardized or
 proprietary
 technology

Source: http://www.info.apps.gov/content/what-are-deployment-models

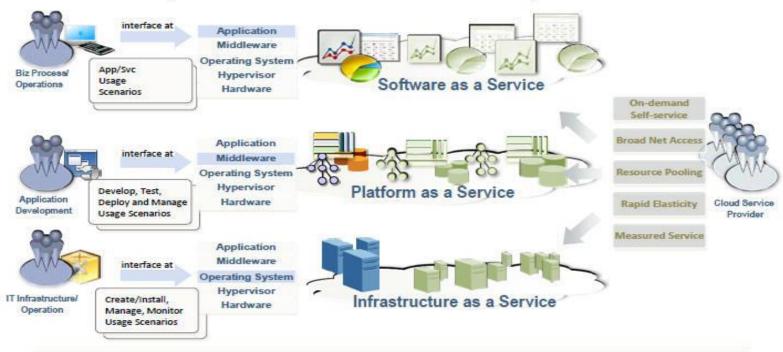
Cloud Definition Framework







Concept?: Cloud Computing Conceptual Model and Requirements



Government Cloud Around The world



UK



Bringing utility convenience to public sector ICT – shared, flexible, agile, transparent and efficient allocation of ICT when it's needed, through sharing standardized resources to reduce costs



Australia

Enable the government's ICT ecosystem to meet the wide range of agency business requirements in an optimal manner with regard to cost, security, flexibility, and operational reliability/robustness.

USA



Establish secure, easy to use, rapidly provisioned IT services for the Federal Government



Canada

IT as a Service, highlighting the fundamental shift from fixed, assetbased IT to one that is entirely service-centric

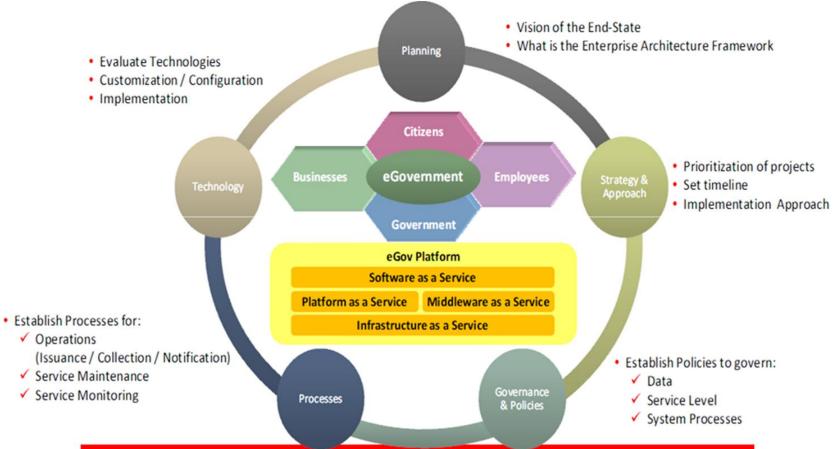




Source : "รายงานการศึกษาสถานภาพการให้บริการ Cloud Computing ของประเทศไทย" โครงการศึกษาการส่งเสริมการให้บริการ cloud computing สำหรับประเทศไทย

e-Government Transformation

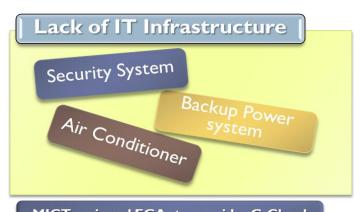




Why G-Cloud?











To develop cloud computing services for Government Agencies

To help providing the IT infrastructure services to Government Agencies

Objectives

Make use of Government IT budget wisely

To lift Thailand E-Government to a higher level

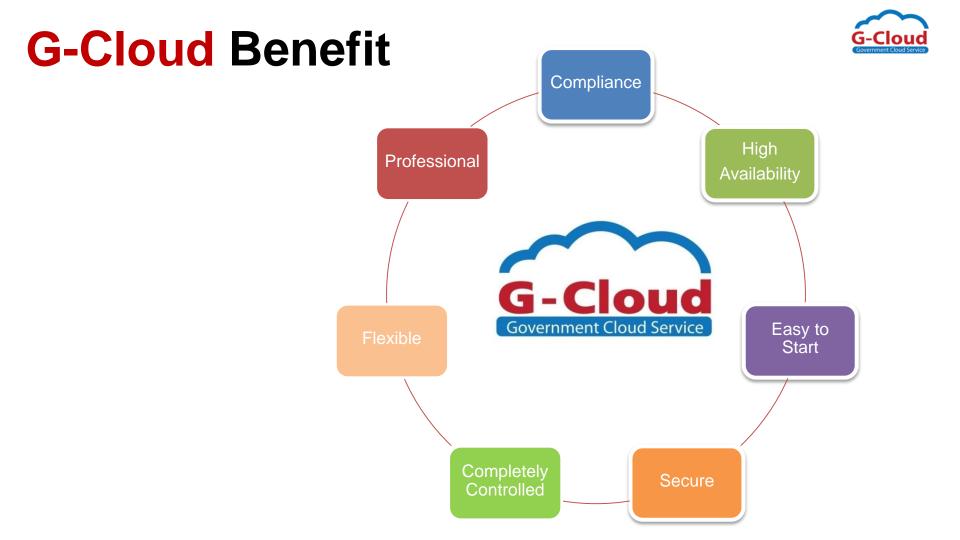


WHAT:

- Usage Based
- SaaS (Software as a Service), PaaS (Platform as a Service)
 laaS (Infrastructure as a Service)
- Reduce Time for purchasing and implementing

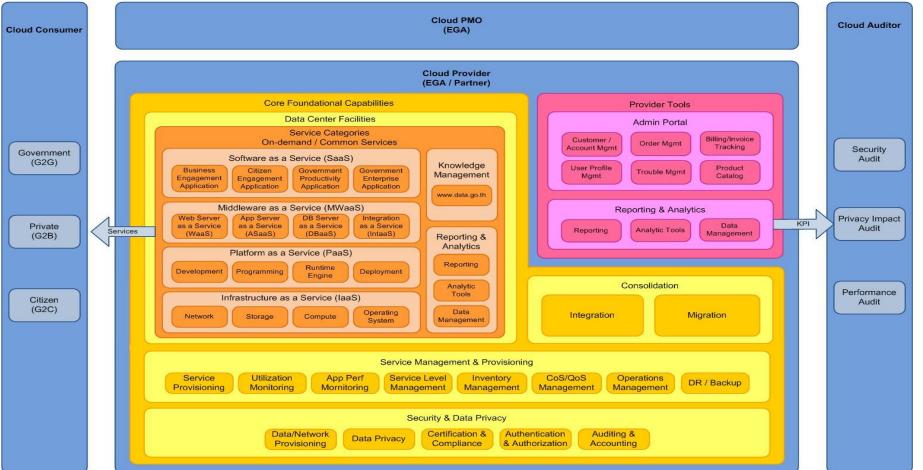
VISION:

- Reduce Government Cost: Reduce the redundancy of IT Infrastructure by sharing
- SLA Based : Guarantee Services
- On demand services: Any Facility Anywhere Any time



Government Cloud Service Framework









Apps.go.th

SaaS (Common Services)



Meeting Calendar File Sharing Knowledge Management



Strategic Planning



E-Library









Public







MWaaS









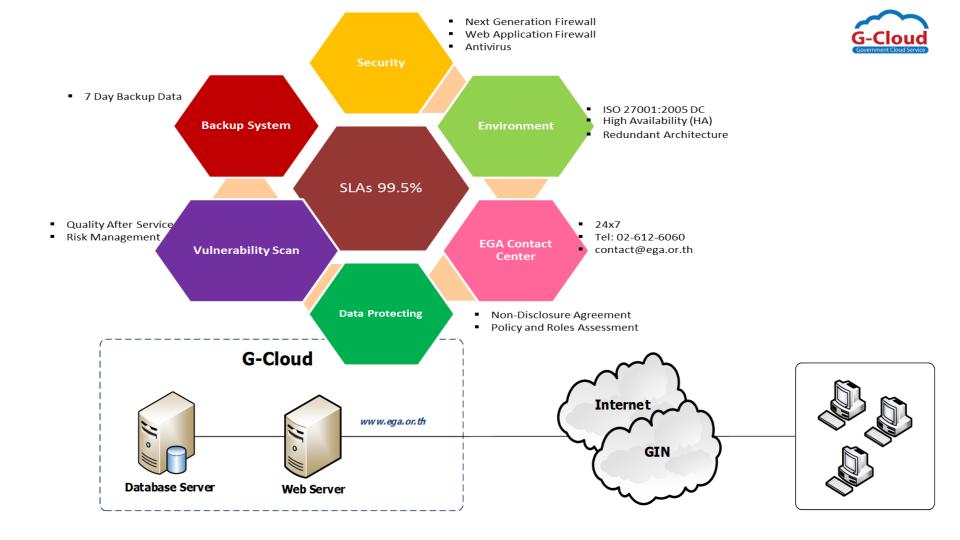


Cloud Provider











Government Cloud Computing ทางออกแรกของภาครัฐ



cloud.ega.or.th



e-Government FE เพื่อการใช้ชีวิตอัจฉริยะที่สมบูรณ์แบบ



3 ปีข้างหน้า เราจะก้าวกระโดด

EGA Beyond

mobile to IOT Secure Infrastructure

Secure Intrastructure (disaster recovery site)



Government Innovation

bring your own device



Open data

(process improvement)





อนาคตใน 3 ปีข้างหน้า

ของหน่วยงานธัฐแบบสมาร์ท

mobile office ที่มีระบบ

disaster recovery site







สภาพแวดล้อมการทำงานเปลี่ยนใป bring your own device









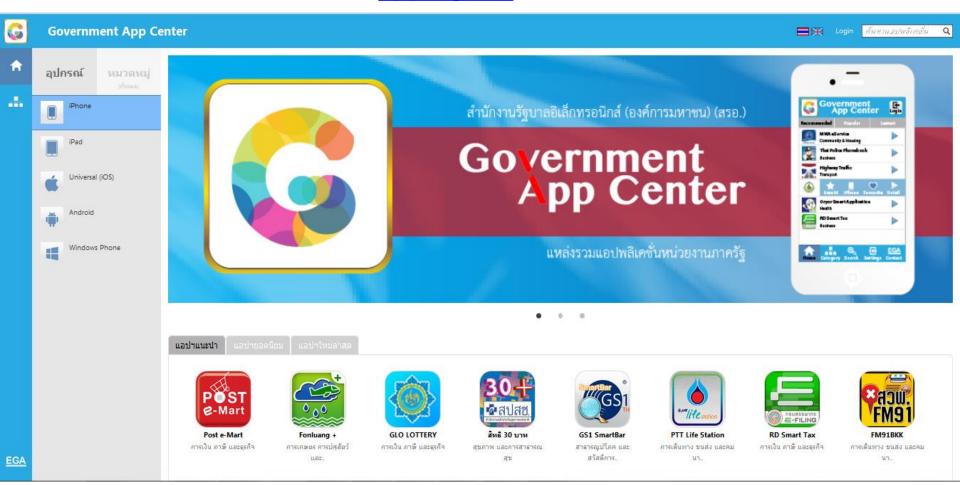






apps.go.th









อุปครณ์อื่น:



Mobile Gov App Center



🖃 🔀 Login เล้นหานอปพลิเลยัง 🔾

รายละเอียด

EGA สำนักงานรัฐบาลลิเล็กพรอนิกส์ เปิดตัว GAC (Government Application Center) โครงการซุนย์กลางแอปพลิเคชั่นภาครัฐ เป็นแหล่งรวบรวมแอปพลิเคชั่นของภาครัฐเท่านั้น เพื่อสะดวกค่อการคั้นทา และเข้าถึงบริการอิเล็กพรอนิกส์ (e-Service, m-Service) ได้พุกที่ ทุกเวลา จากอุปกรณ์เคลื่อนที่ในมือคุณ

GAC รองรับการใช้งานบนทั้งบน iOS และ Android

คุณสมบัติการใช้งานที่สำคัญ

แสดงรายละเลียด



















อนาคตใน 3 ปีข้างหน้า ของหน่วยงานรัฐแบบสมาร์ท

open data îuī 2015

data.go.th

หน่วยงาน 1 แห่ง



open data กว่า 2.000 รายการใน 3 ปี





Open data สร้าง ecosystem ใหม่ของ app ภาครัฐ

2.9 million

Number of emails sent every second

72.9 items

Products ordered on amazon per second

24 petabytes

Data per day processed by google

20 hours

Video uploaded to youtube every minute 700 billion

Total minutes spent on facebook each month

1.3 exabytes

Data sent and received by mobile internet users

375 megabytes

Data consumed by households each day

Big Data**

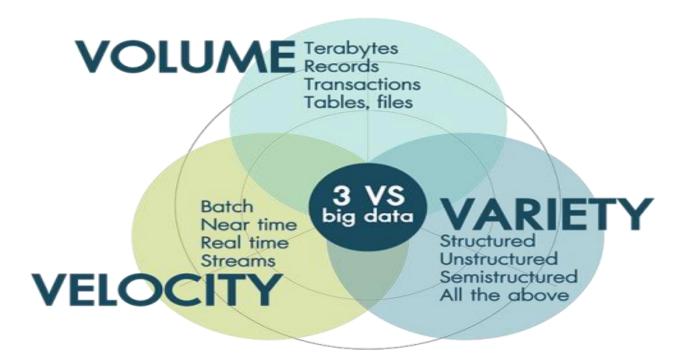
ภาพเบลอที่ต้องธอเวลา

50 million

Tweets per day



big data เปลี่ยนแปลงเพื่อประชาชน





e-GovernmentLIFE เพื่อชีวิตที่พัฒนาไม่หยุดยั้ง Trend

Smart Health ดูแลสุขภาพคนไทยด้วยเทคโนโลยี



Smart Public Safety โลกของการให้รางวัลแทนการบังคับ



Smart Education



Smart Farmer ยุคเกษตรกรไฮเทคของจริง





Smart Government Idunivation Smart Leader





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