

# Cloud-related Initiatives in Japan



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Information processing by computers has evolved by repeating centralization and distribution.

However, the current trend is toward a “slight centralization.”

That is called “Cloud Computing.”

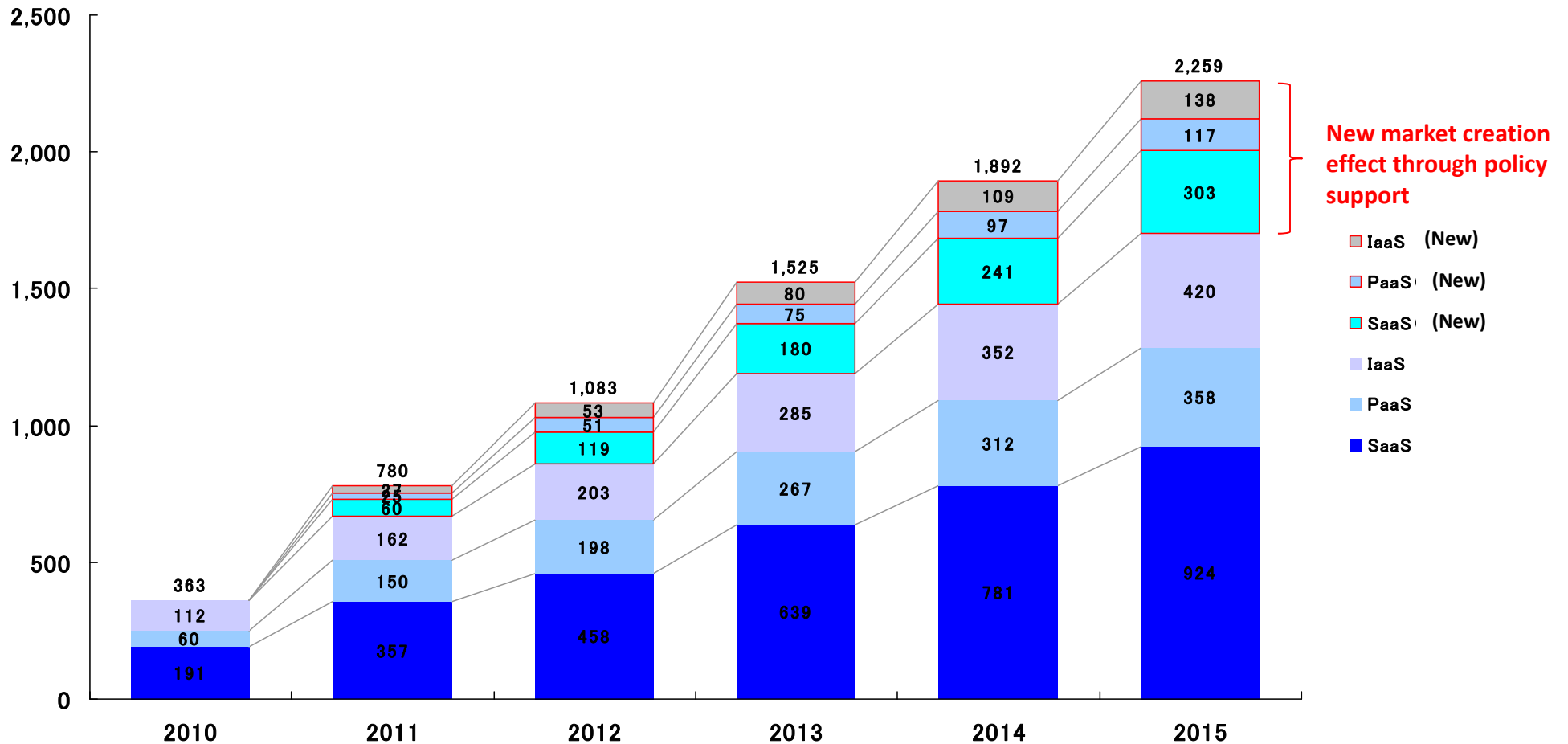
# Market size of cloud services in Japan

The cloud services market was worth 363 billion yen (4.5 billion U.S. dollars\*) in 2010. **It will increase more than six times in size to reach approximately 2.3 trillion yen** (27.9 billion U.S. dollars\*) **in 2015.**

Note: The market is expected to **expand by approximately 560 billion yen** (6.9 billion U.S. dollars\*) **through policy support** for diffusion of cloud services in government, medical care, education, etc .

\*Converted at the rate of 81yen/U.S. dollar (as of June 1,2011)

(Billion yen)



## Demerits when Possessed by Oneself

- While Not Being Used → Wasted
- Unexpected Demand Increase  
→ Cannot be Met
- Sudden Growth  
→ Expansion Can't Keep Up
- Periodic Needs  
→ Useless During Off-season
- During Emergency Disasters → Outage
- Security Issues  
→ Must be Dealt With Alone



## Advantages of Cloud Computing

Resolved

- ✓ **Black-box System → At the Mercy of Providers**
- ✓ **Stoppage of Service → Company Ceases Activity**
- ✓ **Centralized Management → Targeting by Hackers**
- ✓ **Outsource to Providers →**  
**Risk of Leakage of Information from Providers**
- ✓ **Communication Downtime → Company Ceases Activity**

# Points of Selecting Cloud Computing

<b>Application Operation</b>	<b>Availability</b>	Service times, planned outage schedule notification, coping with sudden stoppage of service provision, etc.
	<b>Reliability</b>	Mean time to recovery, number of occurrences of failures, system monitoring standards, notification processes, acquisition of logs, etc.
	<b>Performance</b>	Response times, delays, batch processing times
	<b>Scalability</b>	Customizability, external connectivity, limits for providing resources
	<b>Support</b>	Service provision time periods (coping with failures, general inquiries)
	<b>Data Management</b>	Backup methods/timing, storage period for backup data, requirements for data deletion, compensation/insurance at times of data leakage/destruction, etc.
	<b>Security</b>	Requirements for public authentication acquisition, encryption level for communication, restrictions for information receivers, confirmation of Information security-related matters in audit reports, safety measures for secondary storage media, etc.
	<b>Cost</b>	

## <Formulation of A Guide for Protection of Cloud Service Users and Securing of Compliance>

“Guide for Protection of Cloud Service Users and Securing of Compliance” (July, 2011)

- (1) Complementary Protection of Trade Secrets
- (2) Securing of Compliance  
In Companies Using Cloud Services
- Clarify important matters to be confirmed beforehand  
prior to the contract

# Representative Initiatives in Japan Related to Cloud Computing (2)

## <Standardization of Technical Requirements Required in Inter-cloud Collaboration>

- Research and development has been promoted toward providing cloud computing technology in which multiple, including medium and small, clouds perform advanced collaboration in highly reliable, high-quality, power-conserving cloud services.
- On the basis of the results of the research and development, a proposal was submitted to ITU-T in January, 2011, for technical requirements for functionality for collaborating across multiple cloud systems.
- This proposal has been officially incorporated as an agenda candidate at ITU-T.

## <Implementation of International Dialogue on Cloud Computing>

- Concerning cloud computing, open data distribution across borders is important, and discussion with many countries is vital.