

# Focus Experts' Briefing: Lessons Learned from Amazon's EC2 Failure

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**Focus Experts included:**

Andrew Baker

Robert Keahey

John McCoy

Dennis Morgan

Wayne Spivak

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## How has EC2's failure affected your perception of cloud computing?

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### Executive Summary

When Amazon's EC2 cloud went dark recently, high-profile sites such as Foursquare, Reddit and Quora went offline. The outage afflicted hundreds of Amazon cloud customers and cast a pall on the nascent cloud services industry. The incident prompted Focus Adviser Brian Vellmure to pose the question "How has EC2's failure affected your perception of cloud computing?" on Focus. In this guide, Focus Experts Andrew Baker, Robert Keahey, John McCoy, Dennis Morgan and Wayne Spivak share their reactions and lessons learned from Amazon's cloud debacle.

After reading this guide, check out the entire discussion and join the conversation: <http://focus.com/c/GOO/>.

### Expert Advice

1. Scale alone is not a guarantee of stability.
2. Data centers fail — it's how they recover that's important.
3. Industry leaders are not immune to internal operational failures.
4. Disaster recovery can no longer be swept under the rug.
5. This incident doesn't serve as an indictment of remote infrastructure services.
6. The debacle may sour the enterprise on cloud adoption for critical systems.
7. Cloud computing pricing structures may need adjustments.

# Focus Experts' Briefing: Lessons Learned from Amazon's EC2 Failure

## How has EC2's failure affected your perception of cloud computing?

### 1. Scale alone is not a guarantee of stability.

"I think there were some major assumptions about resilience that are being reconsidered now. The whole idea of cloud computing gives the impression of inherent fault tolerance. However, we're now seeing that scale alone is not a guarantee of stability. Further, the larger and more complex a system is, the harder it can sometimes be to recover." (McCoy)

### 2. Data centers fail — it's how they recover that's important.

"Massive data center failures (facilities, hardware or software and any combination thereof) are nothing new. They get press and we move on. The post-mortem of Amazon's behavior during this crisis will be a major factor in any revenue impact — current or future — that results from this outage. And it will be a major factor in shaping customers' perceptions and future buying decisions. Amazon has done a good job of keeping everyone informed through their dashboard and I am sure have 'darkened the skies' with their best and brightest support people. It will be interesting to see what they release in terms of a 'why this will never happen again' statement. It had better be good." (Keahey)

"If we ditch the 'cloud' moniker, we'd be better off, since the public would understand what really the 'cloud' is and is not. The 'cloud' isn't done for, it is still here and will be here; but nothing is foolproof and until the marketers start selling the real facts (see the first paragraph) debacles such as Amazon's will be the news." (Spivak)

"This sort of thing is inevitable. We have system and network and data center failures all the time. Because of all the excitement and FUD surrounding cloud computing, this got a lot of attention. Once we hear a bit more from Amazon.com, we'll be able to pinpoint the specific issues which need to be addressed going forward." (Baker)

### 3. Industry leaders are not immune to internal operational failures.

"To be honest, I've been somewhat cautious about cloud computing for other reasons including cost, vendor lock-in, vulnerability to sophisticated attacks, and long-term profitability of hosted business models. However, like many others I assumed that a system of this scale would have bullet-proof redundancy and be virtually immune to these types of internal operational failures." (McCoy)

### 4. Disaster recovery can no longer be swept under the rug.

"Appropriate due-diligence is needed moving mission-critical applications into the cloud. Disaster recovery can no longer be hidden in the closet. It has to be part of your plan whether you are on-premise or in the cloud." (Morgan)

**5. This incident doesn't serve as an indictment of remote infrastructure services.**

"We have many who completely fear the cloud, or think it is a fad, and others who believe it solves all the world's problems, including famine and disease. Those who take a more pragmatic stance are less likely to see in this one instance, a complete indictment of the entire segment of remote infrastructure services. I'm more interested to know what services these organizations did or did not avail themselves of to ensure that they had adequate DR and BCP capabilities for their businesses." (Baker)

**6. The debacle may sour the enterprise on cloud adoption for critical systems.**

"If reliability of internal components continues to be a problem going forward, I can't think of any enterprise decision maker who would even consider cloud adoption for any critical systems." (McCoy)

"There are still valid arguments to host your own and not place it in the 'cloud,' especially if your business isn't mobile, geographically separated and virtual. And contrary to popular belief, most businesses aren't." (Spivak)

**7. Cloud computing pricing structures may need adjustments.**

"It is not clear to me that all the providers in this space have worked out the appropriate costs for managing this infrastructure at the mid-to-high workload realm. In the short-term, this might affect how the providers price out their services, or what level of features they offer in a particular pricing tier." (Baker)

**Read the entire discussion, and join the conversation:** <http://focus.com/c/GOQ/>

**Contributors**



**Andrew Baker**

Director, Service Operations, SWN Communications Inc.  
Focus Expert



**Robert Keahey**

Founder/Principal, SummaLogic LLC  
Focus Expert



**John McCoy**

Business Solutions Architect, Assurant  
Focus Expert



**Dennis Morgan**

Chief Information Architect, dkmorgan19xx  
Focus Expert



**Wayne Spivak**

President, SBA \* Consulting LTD  
Focus Expert

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