

Optimizing the Digital Supply Chain

Presented by Energy Metrics, an Aligned Energy company



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Before OSIsoft PI...



The Evolving Supply Chain



Manufacturing **Supply Chain**

ΣΜ **Energy**Metrics

The Evolving Supply Chain





The Digital Plant

Digital Infrastructure



- Mobile
- Collaborative
- Connected

Knowledge Workers



The Digital Plant

Digital Infrastructure



Knowledge Workers

Mobile

Connected

Massive IT Growth





The Digital Plant

Digital Infrastructure



Knowledge Workers

Mobile

Connected

Massive IT Growth



Outdated Infrastructure Platform

Stagnant productivity Escalating energy & water costs



Growing the Digital Economy

The importance to the bottom line:

- IT Unit Cost
- Energy Infrastructure Unit Cost 1
- Supply Chain Scale
- Pricing Transparency
- Economic Pressure to Reduce Cost 1





Growing the Digital Economy

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The amount of data in the world today is equal to every person in the U.S. tweeting three tweets per minute for 26,976 years.

Source: IDC 2011 Digital Universe Report

30 billion pieces of content are shared on Facebook every month.

Source: IDC 2011 Digital Universe Report

In 1986, only 1% of all the world's data was stored digitally. In 2007, it was over 94%.

Source: EMC IDC Big Data 2011







Escalating Demand Energy & Water

Growing Energy Demand

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Global census shows data centre power demand grew 63% in 2012
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Growth Forecast for Mobile Data Traffic Cisco forecasts 11.2 exabytes per month of mobile data traffic by 2017



Increasing Water Scarcity

In 2030, **47%** of world population will be living in areas of high water stress



Source, Igor A. Shikiomanov, State Hydrological Institute (SHL St. Petersburg) and United Nations Educational Scientific and Cultural Organisation (UNESCO, Pans), 1999; World Resource 2000;2001; People and Ecosystems: The Faying Web of Life, World Resources Institute (WRI), Washington DC, 2000; Paul Hamson and Fred Pearce, AAAS Atlas of Population 200 Amartem Resource for the Amartematical Ecosystems: The Faying Resources Institute (WRI), Washington DC, 2000; Paul Hamson and Fred Pearce, AAAS Atlas of Population 200



Escalating Risks

Require immediate action for corporate sustainability

23 August 2013 When markets go dark: 8 reasons for exchange shutdowns By Brenna Cammeron Investing Money Personal Finance



Energy Metrics

- Energy Metrics The first supply chain management tool for monitoring energy and infrastructure
- Optimizing data in Real-time Dynamically connecting Business Initiatives to Business Results



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Traditional Siloed Applications

















Telecom Client

Case Study

Transitioning to a new network infrastructure...





Telecom Client

Case Study

...fueled by rapid growth accessing business and social networks...





Telecom Client

Case Study

...using mobile devices that are frequently upgraded to meet consumer demand.





Financial Client

Case Study

Transitioning to integrated services at bank branches...





Financial Client

Case Study

...a new network infrastructure fueled by rapid growth in online banking...





Financial Client

Case Study

...while dealing with increased regulation and transparency.













































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Inertech Systems

Case Study

Optimizing Products Using Real-time Data

Traditional Cooling Technology



Chiller and CHW Pump

- 90,000W to cool 1500 servers or 300kW
- 4,300 GPD
 Water Lost
 (60 and Below)





Inertech CDU • 500W to cool 1500 servers

 No Water Lost (60 and Below)



The companies of the past used massive amounts raw materials to drive business value.



The companies of the past used massive amounts raw materials to drive business value.

The companies of the future will be ones that can drive the greatest value from the fewest resources.

Energy Metrics



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