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Summary of the Total Economic Impact™ of Huawei's Cloud Fabric

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A high-level brief
of Forrester's
Total Economic
Impact™
Study as
commissioned
by Huawei. >>

Forrester Consulting has built a Total Economic Impact (TEI) framework for clients considering the Huawei Cloud Fabric Solution. Based on interviews with five Huawei Cloud Fabric customers, the objective is to help these organizations understand how to gain specific benefits, reduce costs, and improve the overall business goals of attracting, serving, and retaining customers.

The Cloud Fabric Data Center solution enables customers to build simple, elastic, and open cloud data center networks for sustainable cloud service development. The Cloud Fabric uses Huawei's high-performance CloudEngine (CE) data center switches and its Agile Controller to uniformly control and schedule ICT resources and quickly deploy cloud services. The solution is intended for Internet companies, financial services organizations, governments, energy providers, large enterprises, and carriers.

Four fundamental TEI elements were used to model Huawei's Cloud Fabric service: benefits, costs, flexibility, and risks. Using a sophisticated Return-On-Investment (ROI) analysis related to IT investments, Forrester's goal was to build a complete picture of the total economic impact of each customer's purchasing decisions, individually and as a group.

Approach

Forrester used a multi-step approach to evaluate the Huawei solution's potential value:

- Interviewed Huawei Cloud Fabric marketing, sales, and consulting personnel, along with Forrester analysts, to gather and analyze data
- Interviewed five organizations currently using Huawei's Cloud Fabric solution to obtain cost, benefit, and risk data
- Created a composite organization that represents feedback from the five interviewees
- Built a composite financial model using TEI methodology
- Risk-adjusted the financial model based on issues identified in the interviews

Five Unique Points of View

Forrester interviewed five customers, each with its own unique challenges and requirements:

- **Midsize U.S.-Managed Hosting Services Provider (35+ Staff and USD 20 Million Annual Revenue):** This customer provides managed hosting services and specializes in Chinese market entry for non-Chinese companies. After comparing Huawei's

Cloud Fabric with a current vendor, the client selected Huawei based on pricing, technical expertise, and customer support. Huawei provides quicker, more direct access to senior staff for tier 2 and tier 3 support, and solves issues in 2 to 4 hours compared to 8 to 24 hours with the previous vendor. The Huawei solution is one-third the cost.

- **Midsize Australian Consulting, Managed-Cloud, and Infrastructure Service Provider (1,000+ Staff and USD 140 Million Annual Revenue):** The primary purpose of the solution was to connect two Australian data centers. The previous solution had security vulnerabilities, Virtual Private Networking (VPN) challenges, and unmet Disaster Recovery (DR) requirements. The Huawei solution was about 20 percent less expensive than the incumbent vendor's proposal. Huawei local staff deployed a custom installation. With the Cloud Fabric solution, the customer anticipates an incremental revenue opportunity of USD 25 million due to new service offerings.

- **Midsize Chinese-Managed Network Services Provider (USD 400+ Million Annual Revenue):** This customer works with clients from large enterprises and new startups. Huawei was chosen based on market presence, technology maturity, and local support. The custom solution achieved a 20 percent higher resource utilization rate by reducing network maintenance through unified configurations, automation, and real-time monitoring.

- **Large Chinese Telecommunications Service Provider (10,000+ Staff and USD 1.5 Billion Annual Revenue):** The rapid growth of 4G users was projected to cause increased data and infrastructure growth and strain this provider's network. Huawei was selected based on pricing, local in-house support, scalability, and the ability to provide SDN-based hardware, software, and services. Operational efficiency has increased by about 10 to 30 percent, and maintenance manpower has been reduced by 50 percent.

- **Large Chinese Oil and Gas Company (500,000+ Staff and USD 350 Billion Annual Revenue):** This company wanted to link two

data centers used as research laboratories. The customer stressed the importance of scalability, quality, and reliability. After implementation, maintenance efficiency improved by an estimated 200 percent. Incident rates are 10 to 20 percent lower, while incident resolution is 1 to 2 days shorter. More important, the service life of Huawei's Cloud Fabric equipment is expected to last 8 years — 60 percent longer than the useful lifespan of the previous equipment.

Key Takeaways

Customer interviews revealed the following:

- **Solution Cost Savings and IT Administration Efficiency:** Huawei's Cloud Fabric optimizes network resource usage and provides scalability and cost-savings on incremental hardware purchases. Customers are getting more out of their current hardware investments and offsetting their next investments by an additional three to five years.
- **Solution Suitability, Cost Advantages, and Service Support:** Huawei was selected for cost advantages and better customer service. One customer reported a 66.7 percent lower investment for their solution compared to other vendors.
- **Scalability:** Customers chose the Cloud Fabric based on scalability and the built-in capability for the Huawei solution to dynamically optimize network resources to match business cycles.

Composite Organization: Laud Global Solutions

Based on the interviews, Forrester created a composite organization named 'Laud Global Solutions' to represent the aggregated feedback and quantified experiences. This hypothetical organization is a U.S. technology consulting, application development, and hosting company with the following characteristics:

- USD 250 million in annual revenue and a staff of 1,200
- 25 data centers; 10 based in China
- 20 percent managed hosting business

Voice of Customer

"We were able to optimize and utilize our network by 20 percent more, effectively reducing the cost of bandwidth."
— Networking Director, midsize Chinese managed network services provider



Voice of Customer

"We've seen a 10 to 20 percent reduction in power and maintenance costs and a 50 percent reduction in labor due to unified configuration, automation, and pooling."

— Network Manager, large Chinese oil and gas company

Prior to engaging Huawei, Laud Global Solutions had discussed but not deployed an SDN platform. They lacked the hardware to create a 'fabric' and were using four-year-old switches. When the company decided to update hardware and buy new network architecture, it issued a proposal request to several network solutions companies.

After a two-week comparison, Huawei was the most responsive. They designed a solution based on the use case, existing environment, and desired future state. Even after a delay of several days, the other vendors provided only minimal customization. These vendors were also significantly more expensive and did not showcase a strong customer support structure. In contrast, Huawei allowed Laud Global Solutions to speak with senior staff and engineers to answer questions and further customize the solution. The company's director was impressed.

Laud Global Solutions engaged Huawei's Cloud Fabric with the following high-level goals:

- Lay the foundation for an elastic, agile, and scalable SDN architecture to leverage old and new hardware, with an eye on expansion.
- Work with the most cost-effective vendor

to reduce costs and improve hardware and labor efficiency.

- Introduce increased infrastructure utilization and capacity.

• Benefits

Laud Global Solutions realized three main benefits:

1) Solution Cost-Effectiveness: Huawei engineers helped Laud Global Solutions customize a solution and investment plan that included:

- Aggregation layer switches, routers, and Top-Of-Rack (TOR) switches for which Huawei's aggregation switch pricing is 66.7 percent lower than the alternative solution and 10 percent lower for all other hardware.

- A total risk-adjusted initial value of USD 1,092,500.

2) Operational Efficiency: Laud Global achieved the following savings from improved operational efficiency:

- Maintenance cost was estimated at a recurring 20 percent based on the initial investment of USD 1.85 million. Huawei's more efficient and smaller equipment will reduce the estimated maintenance cost by an additional 20 percent through savings in power, cooling, and issue avoidance.

- The adoption of unified configuration through aggregation layer switches, automated tasks, and pooled resources reduced manual monitoring tasks. Half of these resources were allocated to new projects.

- The three-year risk-adjusted benefit value is calculated to be USD 917,683.

3) Enabled Business Capabilities: With improved infrastructure utilization and less network congestion, especially during peak hours and seasons, Laud Global Solutions was suitably equipped to present a new, better service offering with its Cloud Fabric-based cloud host. A future private-public cloud interlink would allow clients to source and share resources and content with different providers and capture an incremental USD 10 million of which the organization conservatively at-

tributes 10 percent of the credit to the Huawei Cloud Fabric.

- The three-year risk-adjusted benefit value is projected here to be USD 2,648,000.

[Total Benefits]: Over three years, Laud Global Solutions expects risk-adjusted total benefits to be a Present Value (PV) of USD 4,030,077.

• Costs

Laud Global Solutions experienced two primary costs:

- **Huawei's Cloud Fabric Solution:** The solution includes ten aggregation layer switches (CE12800 series), twenty routers (NE40E series), and 150 TOR switches (CE6800/CE5800 series).

- **Internal Labor and Implementation:** The company also dedicated five resources (80 percent of their time) to deploy the solution over four months. These five resources will continue to maintain and operate the solution going forward.

[Total Benefits]: Over three years, the organization expects risk-adjusted total costs to be a PV of USD 2,880,350.

• Flexibility

Flexibility represents an investment in additional capacity or capability that could become a future business benefit. This provides the ability to engage in planning for such initiatives but without the obligation to commit. A customer implementing Huawei's Cloud Fabric might later realize additional uses and business opportunities.

With the SDN foundation laid, Laud Global Solutions can take on more business with larger clients and also better manage incremental investments going forward. Future plans include providing the connections necessary to unify private and public clouds in one location.

• Risks

Forrester defines two types of risk associated

with this analysis: 'implementation risk' and 'impact risk.' Implementation risk means that a proposed investment in Huawei's Cloud Fabric may deviate from the original or expected requirements, resulting in higher costs. Impact risk refers to the risk that the business needs of the organization may not be met by the investment in Huawei's Cloud Fabric, which could result in lower total benefits. The greater the uncertainty, the wider the potential range of outcomes for cost and benefit estimates.

Quantitatively capturing implementation and impact risk by directly adjusting financial estimates provides a more accurate projection of the ROI. In general, risks affect costs by raising the original estimates and affect benefits by reducing the original estimates. Risk-adjusted numbers should be taken as 'realistic' expectations, since they represent the expected, risk-weighted values.

The following impact risks are identified as part of the analysis:

- Reduced discount due to smaller volume investments
- Continuing to staff large maintenance teams after achieving operational efficiencies and reducing maintenance
- Running a business 'as is' without extending capabilities or service offerings that the business can sell to clients

The following implementation risks are identified as part of the analysis:

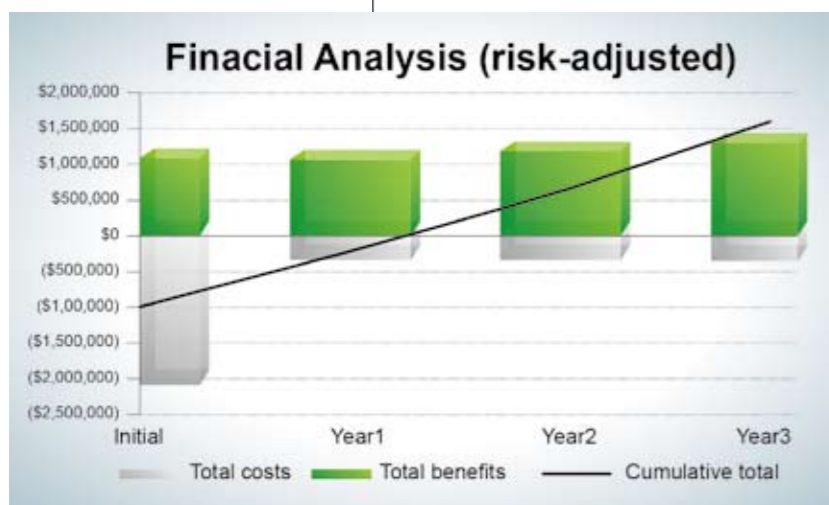
- Increased scope or environment size
- Lack of internal expertise, requiring professional services
- Training and language support

Laud Global Solutions used values ranging from 5 to 20 percent to adjust for risk and uncertainty in their cost and benefit estimates. Readers should apply risk ranges based on their own degree of confidence in their cost and benefit estimates. ▲

See final report: http://enterprise.huawei.com/topic/Cloud_Fabric_TEI_en/

Financial Summary

The financial results calculated in the Benefits and Costs sections can be used to determine the ROI, NPV, and payback period for Laud Global Solutions' investment in Huawei Cloud Fabric. These values are determined by applying risk-adjustment values to the unadjusted cost and benefit results.



Financial Summary for Laud Global Solutions