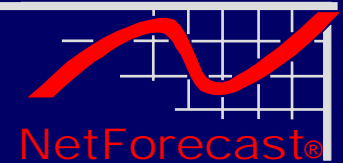


# Business Value of Performance: Lessons from the Field

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Networld + InterOp – May 4, 2005



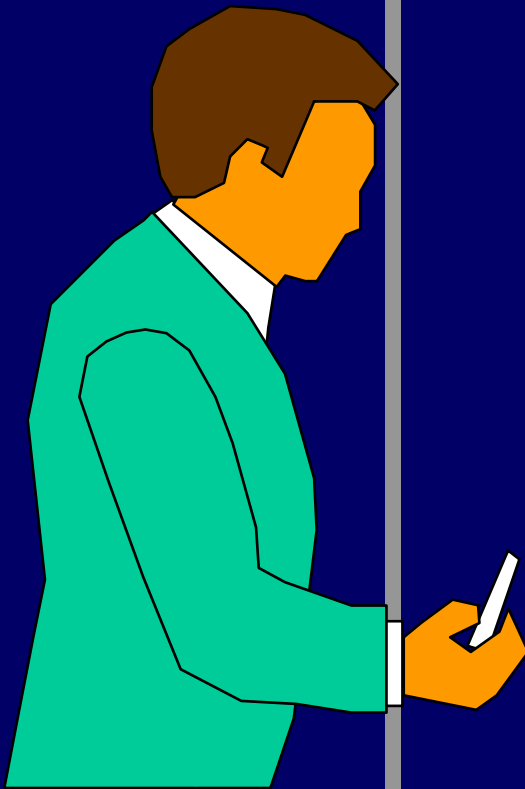
**Rebecca Wetzel**

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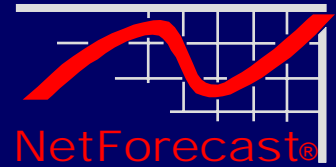
[www.netforecast.com](http://www.netforecast.com)

# Outline



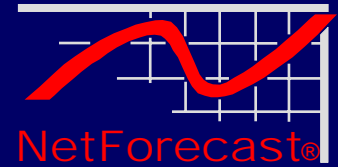
- **Context: Application Performance Problems/Solutions**
- **The Research**
- **Findings: Business Value of Performance**
- **Conclusions**

# Application Performance – Why Care?



- **Businesses need applications to work well over networks**
  - Networked applications are increasingly critical to the business
  - Frustrated customers, employees, and partners are bad for business
  
- **But networking trends thwart performance**
  - Data centers are consolidating
  - Users are moving away from the data center
  - More networking functions are being outsourced
  - Mission critical applications are being run over the public network
  - Security is an increasing threat
  
- **And applications aren't designed for performance**
  - For developers performance over a WAN is rarely priority #1
  - Applications are becoming increasingly complex

# Application Delivery System (ADS) Solutions

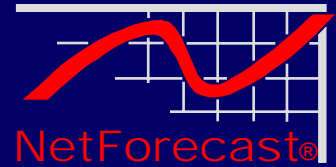


- **Technologies that sit between the network and application layers**
- **Provide two application-related functions**
  - **Measure performance**
    - BMC Patrol, CA Unicenter, Compuware, Concord, Fujitsu, IBM Tivoli, Mercury, Micromuse, Net Scout, NetIQ, ProactiveNet, Vieo, Adlex, Coradiant, NetQoS, Network Physics, Symphoniq, Gomez, Keynote
  - **Improve performance**
    - Products: Allot, Converged Access, Ipanema, Actional, ActivNetworks, BlueCoat, Coyote Point, Crescendo, DataPower, F5, FineGround, NetScaler, Radware, Reactivity, Redline Networks, Sarvega, Certeon, Exinda, Expand, Orbital Data, Packeteer, Peribit
    - Services: Akamai, Mirror Image, Netli, Speedera
- **Operate transparently to the user and application**



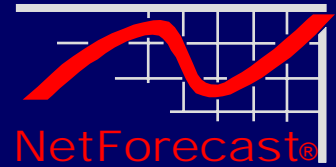
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# The Research

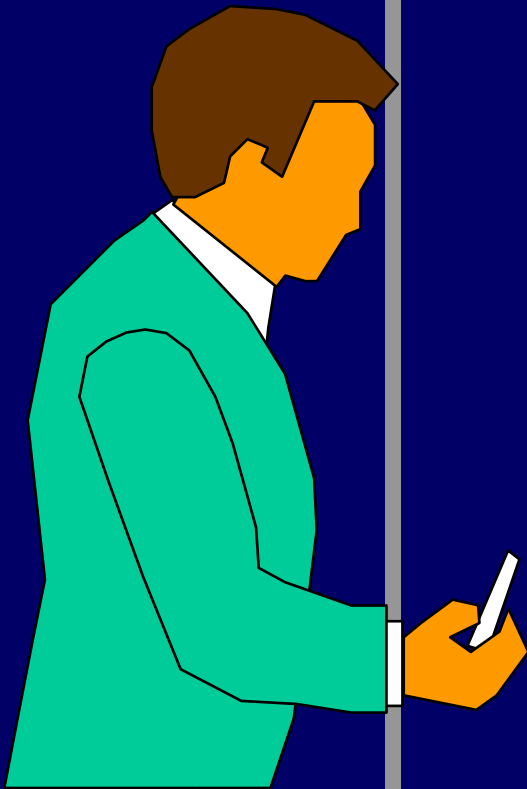


- In-depth telephone Interviews with 21 ADS users
- IT managers
- Why did they buy?
- Business benefits
  - How do they translate performance/features into business value
  - What they found were actual benefits

# The Research

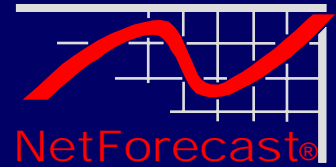


- **5 buyers of performance measurement products**
  - Regional insurance company, Major computer manufacturer, Media production and distribution company, International commercial bank, On-line business news company
- **11 buyers of performance improvement products**
  - Media company, Sports apparel company, Medical and health services firm, Automobile manufacturer, Toy manufacturer, University, High-tech manufacturing companies (2), Commercial bank, Legal services firm, Waste management firm
- **5 buyers of performance improvement services**
  - International high-tech manufacturing companies (2), Financial Services, Book Publisher, Consumer Demographics Service



- **Context: Application Performance Problems/Solutions**
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# Why They Bought



## ● Measurement Products

### ■ To identify causes of performance problems experienced by application users

- “[We wanted to resolve] the end-user identification of performance issues. ... Any performance-type issue or even disconnect issues were immediately sent to the networking people as “it must be a network issue”. Then we would spend a lot of time in the network group trying to verify or identify whether it was a network issue or it wasn’t.”

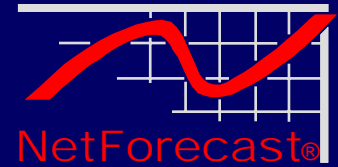
### ■ To shorten troubleshooting time for performance problems

### ■ To understand what applications are traversing the network and the behavior of those applications

- “We had a desperate need to figure out what was going across the wire, how applications were behaving, and to characterize the traffic in various devices and applications”

### ■ To provide quality of service

# Why They Bought



## ● Improvement Products and Services

### ■ To save bandwidth

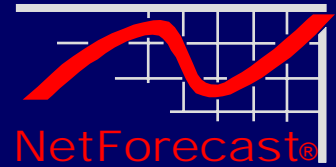
- “We couldn’t get fiber into [our] building because there was a [local] moratorium on digging up the streets.”
- “We wanted a way to send less traffic over the network and to optimize the performance of what we did have. Just throwing bandwidth at it didn’t seem to be a solution because of congestion from places like China and Malaysia. Even if you bought more bandwidth you couldn’t get the bandwidth out of the country.”

### ■ To balance traffic load

- “We had saturated a T3 pipe going out to the Internet, and had not been able to load balance our second T3. “

### ■ To improve the user experience

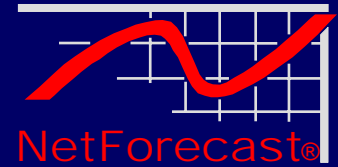
# Why They Bought



## ● Improvement Products and Services

- **To implement applications globally without increasing bandwidth**
  - “as we went to ERP, you had a customer on the phone, you needed to get an order processed timely and well. Suddenly we started looking at bandwidth requirements appropriate to the different technologies we were looking at, and we realized that we really didn’t have enough. ... We had already doubled and doubled our bandwidth over a two to three year period, and the next incremental increase was going to be really quite significant, so we started looking at technologies to manage the bandwidth.”
- **To protect against security threats**
  - “We have HR and financial systems that talk to each other and we didn’t want to expose vulnerabilities to the public network. “
- **To achieve high availability**
- **To accelerate SSL**
- **To reduce congestion over international VPN links**

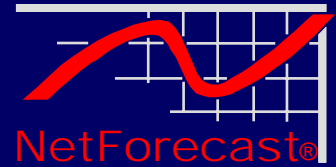
# Why They Bought



## ● Improvement Products and Services

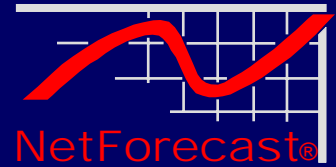
- **To ensure acceptance of new Web-enabled applications by speeding their delivery**
- **To support data center consolidation**
  - “we couldn’t penalize our customers with bad performance just because we have a strategic directive to centralize hosting. We had to find a way to overcome the effect of geography on performance.”
- **To make applications perform well in challenging geographic locations**
  - “We have a strategic direction to have as much of our Web site hosting as centrally located as possible, and that is predominantly done out of the US. We also knew that we could not have content that was targeted (for example) for China hosted out of the US without addressing the implication that that has on performance.

# Actual Business Value – Overview



- **Cost savings**
  - Bandwidth savings
  - Server savings
  - Staff savings from faster troubleshooting
- **Better applications**
  - Increased user satisfaction
  - User acceptance of new applications
  - Improved employee productivity
  - Improved global reach
  - Enable new application to work
  - Increased sales
- **Better infrastructure**
  - Improved security
  - Better management information
  - Better reliability

# Business Value: **Measurement**



- **Top benefits in order**

- **Faster, more accurate troubleshooting**

- **IT staff effectiveness**

- Less high-level analysis (freeing up staff to work on more strategic projects)
- Better assignment of IT staff (putting the proper team on the real problem)
- Culture change from “It’s a network problem” to “It’s our problem”

- **More effective resource utilization**

- More effective bandwidth utilization
- More effective server utilization
- Charge-back to business units

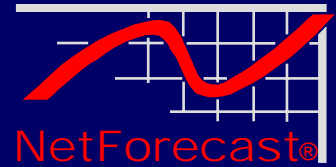
- **Secondary values in order**

- **Improved security**

- **Helping the users**

- Solving application response time problems
- Increased user satisfaction
- Improved employee productivity (non-IT staff)

# Business Value: Measurement



- **Troubleshooting time greatly reduced**

- **What took hours is now performed in minutes**

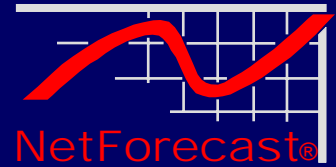
- **Case 1**

- Originally took 60-120 minutes
- Dropped to 20 minutes
- Now 3-5 minutes

- **Case 2**

- Incident took 20-60 minutes
- Dropped to 3-5 minutes
- “Every time we [had] a big problem it [was] taking us 20 minutes or an hour to isolate or even determine that we [had] a problem, and then start fixing it. Now if we have a problem, within minutes an operator looking at the screen who doesn’t even know what they’re looking at exactly can [determine if] we have a big problem or just a small anomaly.”

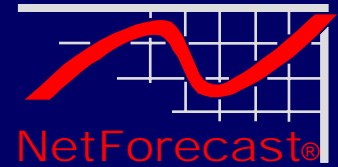
# Business Value: **Measurement**



## ● Improved efficiency

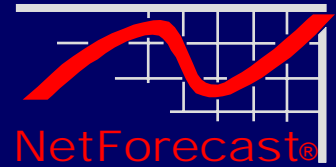
- **“Lots of traffic [was] going to places that people realized was a mistake. Access traffic was on the network that shouldn’t have been there. It gave us a real insight into what was really happening and how it was happening, [which was] quite different from what everyone thought should have been happening.”**
- **“It’s like having a great magic mirror that you can hold up to the wire to see what’s going through it. A lot of people are amazed. Even in places where they think they have a great handle, [people] are quite shocked that there are things sliding under the radar because they [couldn’t] actually see what’s there over time.”**

# Business Value: **Improvement**



- **Business values differ based on use**
- **Public-facing applications**
  - Bandwidth savings
  - End-user satisfaction
  - Data center consolidation
  - Increased sales
  - Staff (admin/net/help) relief
- **Private-facing applications**
  - Server savings
  - End-user satisfaction
  - Improved security
  - Improved employee productivity
  - Improved reach (provision more places faster)
  - Make the IT strategy work (enable apps)

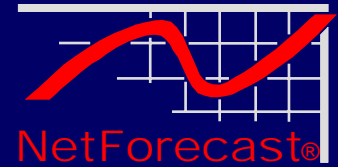
# Business Value: **Improvement**



- **Bandwidth savings**

- **30% cost savings in bandwidth**
- **5 month payback**
- **“You have the one time fixed cost of [an ADS product] versus the repeating cost of doubling circuits at overseas locations. So in places like Malaysia and China, you double the bandwidth it goes from \$6,000 to \$12,000, to \$18,000 per month, versus the one time cost of [an ADS product], so the return on it is in months.**”

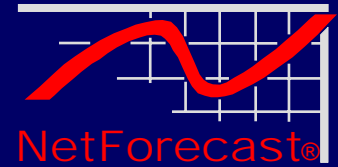
# Business Value: **Improvement**



## ● End-user satisfaction

- **“We got a 50 percent improvement in performance. We cut [response times] perfectly in half, and because of the additional speed, people who were not enjoying the site, or weren’t spending any time there, suddenly jumped on the site.”**
- **“We have eradicated the impact geography has from a performance point of view. “**
- **‘We got tremendous complaints from our customers, client services and sales force about reliability. It got extremely bad after 9/11 because of fiber that went thru trade center. At times in early 2002 for the bulk of working day in California you could not see California from Long Island, due to congestion of hubs in NYC. We [implemented an ADS service], and most of that went away.’**
- **ROI - Financial Services Company – Maintained key customer, estimated 200% return on service cost for initial deployment – “We had specific clients who said they would give us business if we met performance goals. We have a 1-1 relationship between product performance and people buying our stuff.”**

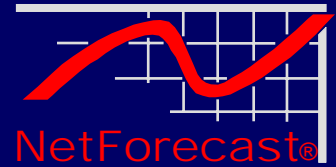
# Business Value: **Improvement**



## ● Fewer data centers

- “Total cost of ownership for Web hosting infrastructures in many different geographies is much higher than if you can do that in a central place with the same performance.”
- Costs include capital investment, Internet connectivity, database synchronization complexity and support
- One large manufacturing company found that performance actually improved for European customers after an EMEA data center was consolidated into a US data center.
- ROI – Consumer demographics firm - “The cost of a data center is \$4M to \$5M. We have still not put a second data center in place.”

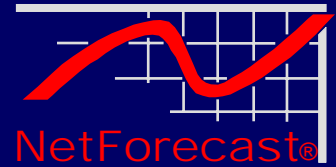
# Business Value: **Improvement**



## ● Increased sales

- A media company attributes an improvement product to enabling 6 million page views in one day with almost 200 Mb of traffic. These views “turn into revenue because of ads. The more people I have looking at pages, the more ads I can serve. It’s a fairly simple metric.”
- “The performance of our Web site went way up, the manageability was simplified, the metrics for our business - dollars and the amount of the page traffic, went up dramatically.”

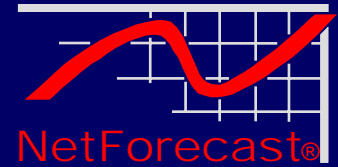
# Business Value: **Improvement**



- **Server savings**

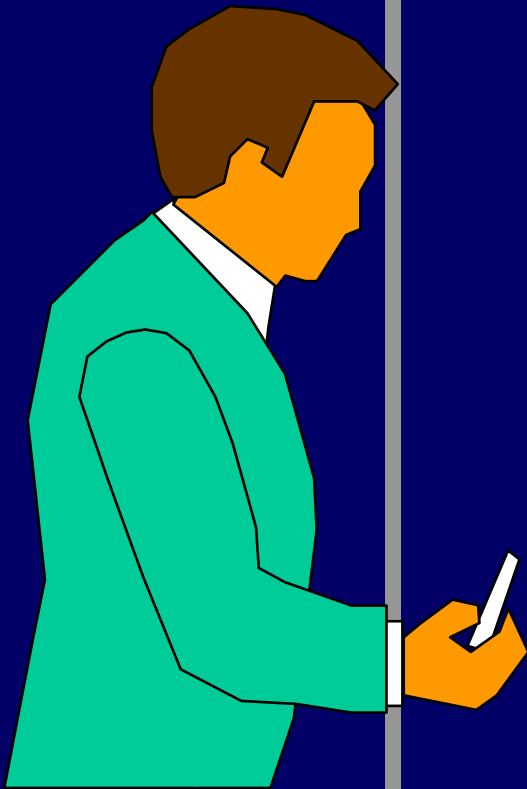
- **60% cost savings in servers - “Microsoft estimated that we would have to buy nine Exchange servers to handle our load with them doing SSL encryptions. We ended up only buying two [because of ADS technology]. We had an actual cost savings of \$2500 per month.”**

# Business Value: **Improvement**



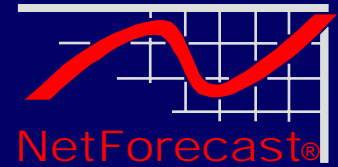
## ● Enable new applications/improve reach

- “There was no way we could implement our ERP system or any of the other systems at certain locations, unless we had [used ADS technology].”
- “I don’t believe we would have been able to launch [our new online store in Japan] if it hadn’t been for the performance improvements we got [from our ADS service].
- ROI - Educational Company – Uptake of new application – Already saving customer approximately 27X cost of service cost - “When our online service is slow, [customers] will pick up the phone to call in their orders. Using the phone costs us more money. In getting a faster speed, we get a higher adoption rate.”
- “To move distributors [in Asia] to use the online channel, we had to demonstrate the value to them for switching. ... It was a cost savings to move people to the electronic channel versus fax, and we see increased revenue through ease of access and speed.”



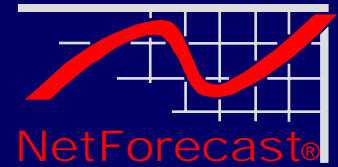
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# ADS Technology Conclusions



- **You know you need an ADS solution when:**
  - **Troubleshooting application performance is a big headache, and everyone is “blaming the network” when the network is not the problem.**
  - **Bandwidth is breaking the bank and/or is hard to get.**
  - **Management has decreed that data centers will be centralized and/or no new data centers can be built.**
  - **Geography is your nemesis, and you can’t deliver good/consistent performance throughout the world.**
  - **Your new ERP system or [insert name of application] turns users off because it’s slow, and users are pushing back.**
  - **You’re worried about the cost and complexity of the mounting number of SSL and other servers needed to support remote users.**
  - **Your mandate is to migrate customers and/or partners to the online channel, but poor performance keeps them picking up the telephone.**
  - **You rely on ad revenue and/or online transaction revenue and frustrated users are leaving you in the lurch.**

# ADS Technology Conclusions



- **Measurement products consistently deliver faster problem resolution, more efficient use of staff resources, and insight into what is really traversing the network.**
- **Improvement solutions can deliver:**
  - **Major bandwidth cost savings - especially internationally for public-facing applications.**
  - **Major server and data center consolidation savings – especially for private-facing applications like ERP.**
  - **Happier customers, and more satisfied employees and business partners.**
  - **Faster adoption of new (especially private-facing) networked applications.**
  - **More revenue for public-facing applications that depend on ad revenue and/or online purchases.**
  - **Customer support savings – especially by moving customers from fax and call centers to online channel.**

*Smart Strategies From Hard Data*

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**Thank You**

