

# Network + Interop

## Avoiding the Train Wreck of Boxes: Is a Performance Improvement Platform Right for You?

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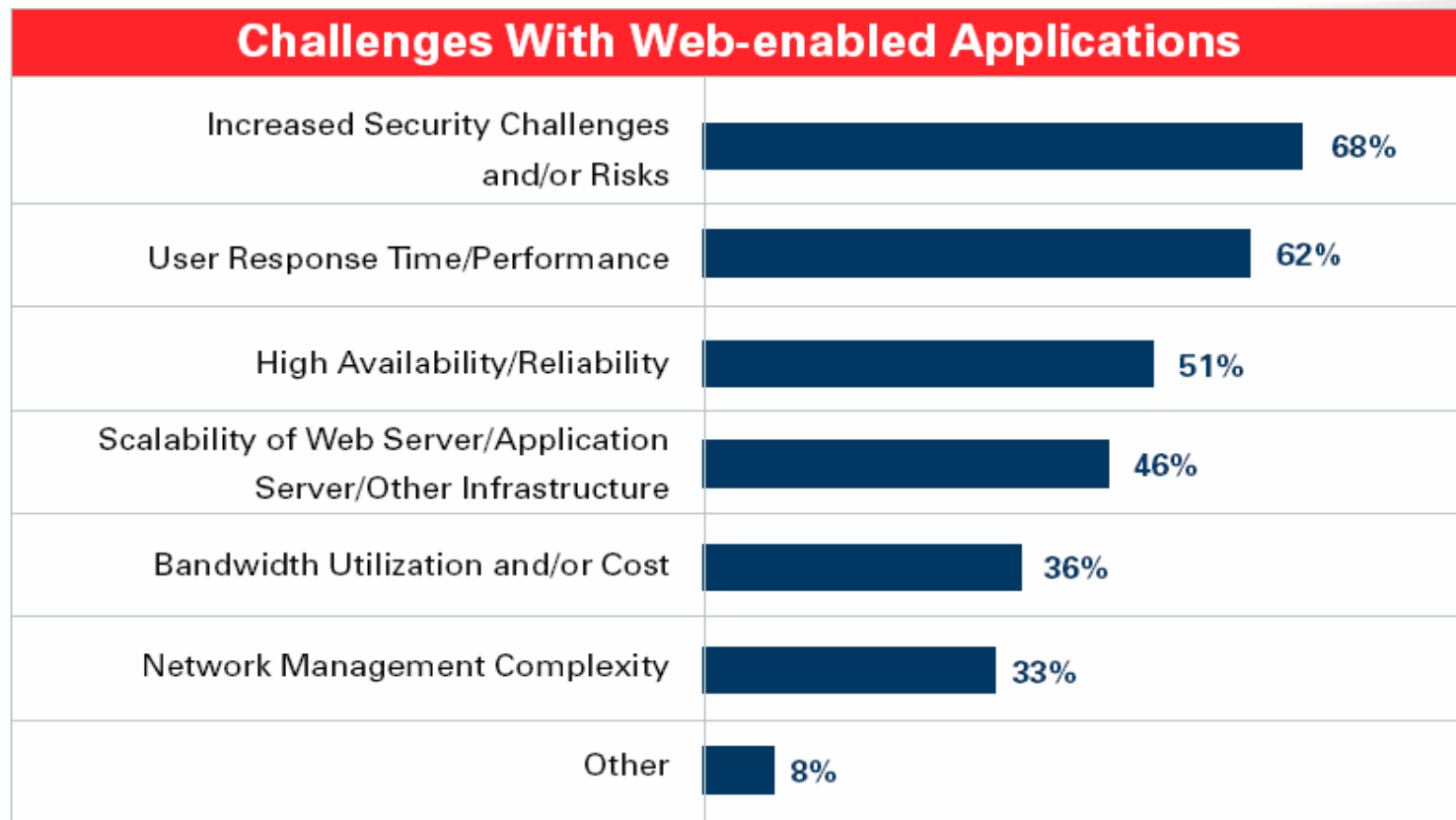
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*“Redline Networks – Powering the New Data Center”*



# You'r Not Alone: What your Peers are Experiencing

**90% of Enterprises face challenges with Web-enabled applications**



Base: Total Respondents (264)

Q. What challenges has your organization faced with Web-enabled applications?



# The New Landscape: Emergence of the Enterprise Web

- **Emerging as a result of these major trends**
  - Web enablement of highly complex enterprise applications
  - Data center consolidation
  - Applications intended for business-unit level roll-out now globalized within the enterprise
  - Focus shifting from throughput issues to simplifying application complexity issues
- **Creating new pain points**
  - Data center consolidation - the user is 'further away' from the application
  - Pain of managing multiple, complex point products
  - Performance issues as a result of multiple point products
  - Performance problems as a result of bandwidth, latency, jitter, line quality
  - Poor application design – chatty protocols slow application performance
- **Enterprise Web = A Protocol intelligent, application aware overlay network**

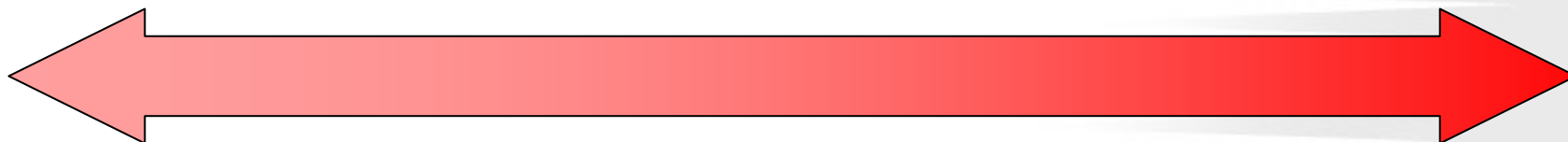


# The Enterprise Web: Driving Need for 'Application Front Ends'

Causing the market to move from performance to complexity buying cycle

Public Web

Enterprise Web



## Key Issue = Capacity

- Lots of connections
- Speeds n feeds – throughput
- Lower complexity, anomalies
- Load balancing

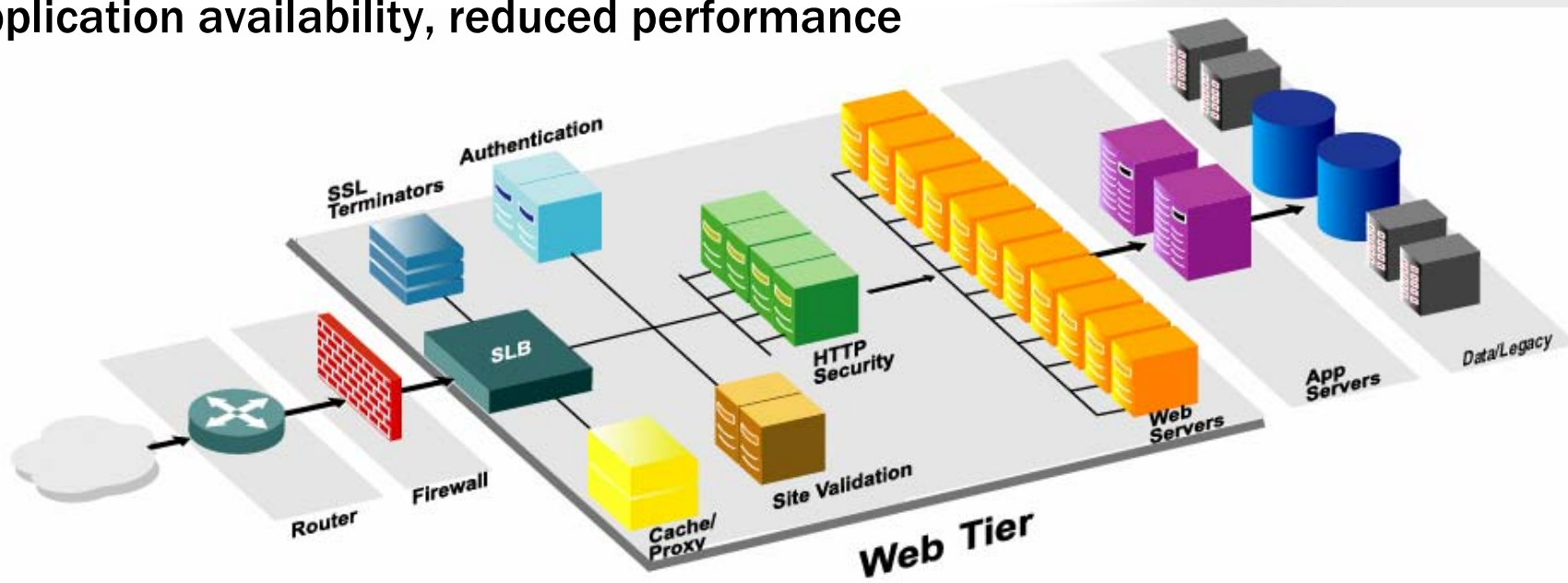
## Key Issue = Complexity

- Content intelligence
- Manage anomalies
- Improved utilization of servers
- Compression – manage exceptions
- Load balancing
- Tag fixing
- Cache content marked non-cachable



# Today's Web-Enabled Data Center Mess

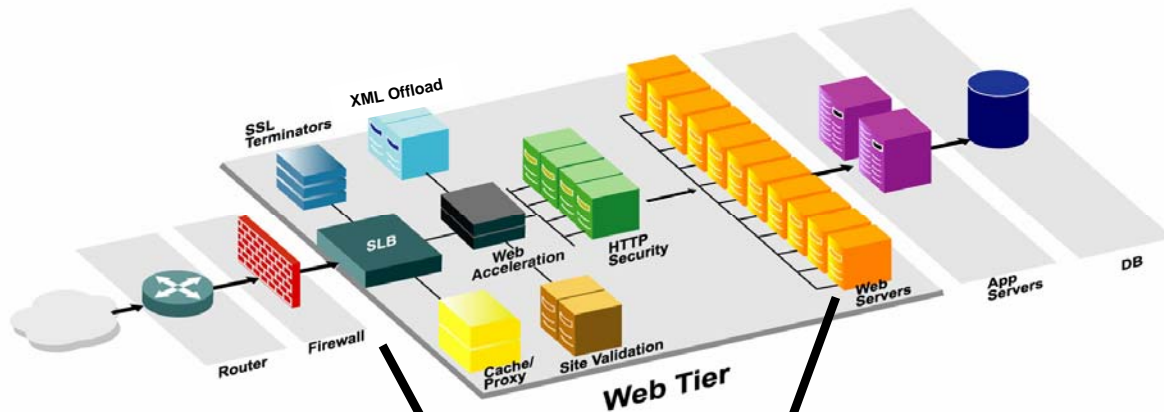
- “Old World” architecture has SLB at the center of the Web Tier
- Resulting ad-hoc ‘Web Tier’ build-out is a mess of point products
- More boxes = more points for failure, complex management, reduced application availability, reduced performance



# Application Front End: Collapsing the “Web Tier”

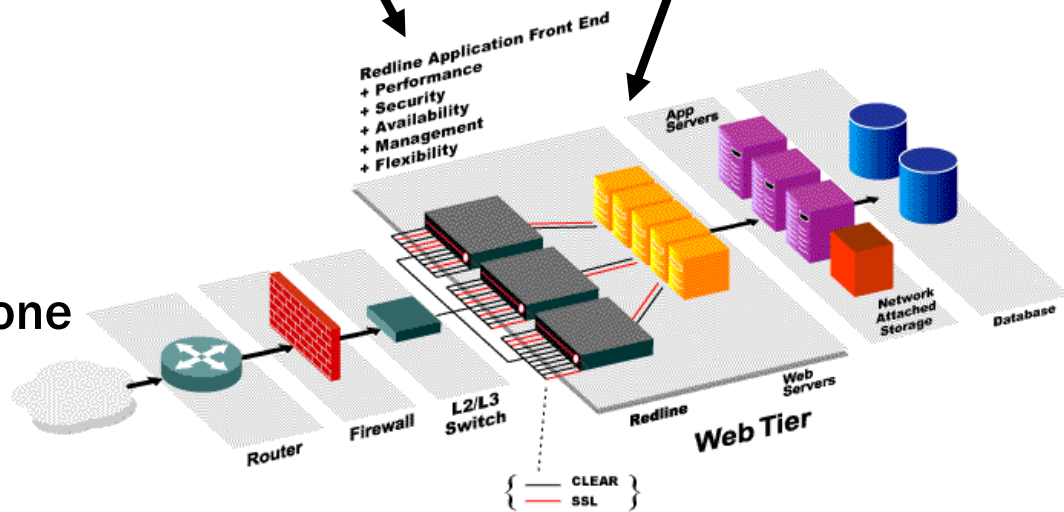
## Old Solution:

- SLB at the center
- For resiliency, each box must be duplicated
- Unmanageable



## New Solution – AFE:

- A platform approach
- Consolidation of the Web Tier
- Offloads Servers, speeds user performance
- For Web applications, stand-alone L4-L7 SLBs become obsolete



# Application Front End Benefits

- **Potential Benefits (Vendor/Feature dependent)**

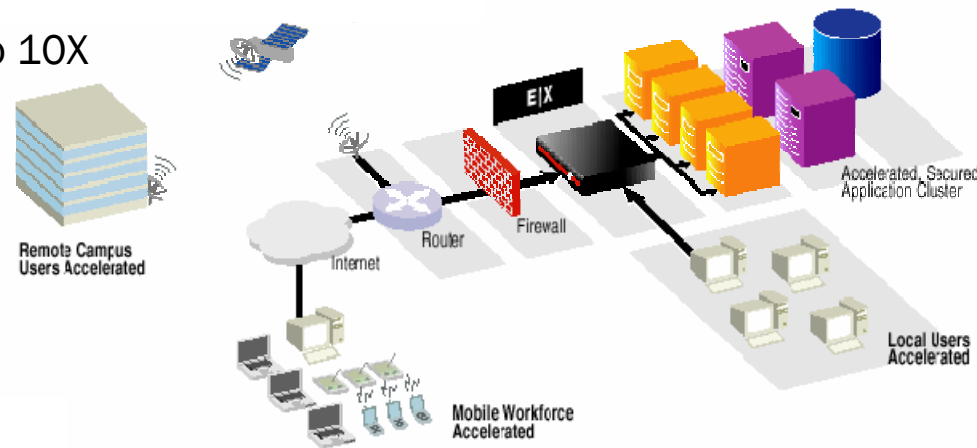
- On-the-fly application adaptability without costly application changes
- Automatically secure applications; request and response validation
- Management visibility and error correction
- Accelerate user downloads up to 70%
- Increase Web/App server capacity up to 10X
- Decrease bandwidth usage up to 70%

- **Example Web Applications**

- Custom web applications and Portals
- Siebel, SAP, Lotus, Oracle, etc.

- **Deployment**

- Replace or complement existing SLB
- No server or application changes
- No changes to client or applications
- Single ended solution – does not require box at each end of the WAN pipe



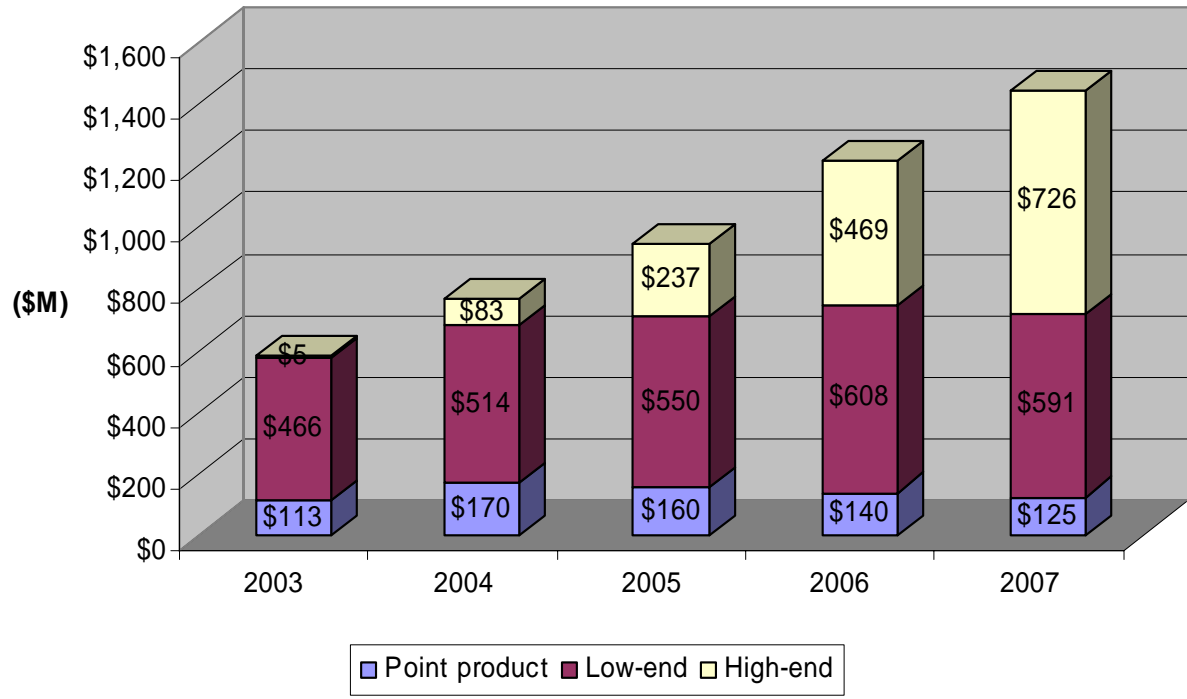
# What's Important when Evaluating an AFE Product

- **Measurable performance improvement of your Enterprise application vs. bytes/sec throughput (which is meaningless)**
- **Server offload – Efficiency of reducing or eliminating web servers and application servers**
- **Bandwidth savings – as measured in a real-world environment with your application**
  - Caching
  - Compression
- **Page fidelity – can't 'break' pages when features like caching and compression are enabled**
  - Many applications use incorrect tags, which 'breaks' content when caching and/or compression is turned on with some products
- **Flexibility to work around edge cases and incorrectly coded http tags,**
- **Content intelligence:**
  - Ability to optimize protocols on the WAN,
  - Work around 1000's of browser bugs, application bugs, etc (requires an HTTP Proxy),
  - Validate or 'scrub' protocols, protecting servers / applications
- **Performance linearity / throughput when *all* complex features are enabled**



# Sizing the Consolidated AFE Market

**AFE Market Segmentation**



- SLB Replacement
- Webified Enterprise and E-Commerce Applications
- Traditional, low-end SLBs

The SLB market will decline to \$380M by 2007.

Subsumed by the emerging Multi-function 'AFE' market.

Combined market >\$1.40B in '07

The Pure-Play AFE market opportunity grows to over \$900M

Source:  ACUITIVE, INC.

# AFE Deployment Case Study

## Background

- 4,700 employees – leading Biotech company (Serono)
- MySerono - Provide worldwide access to applications for all employees
- Also support over 1,000 road warriors
- 2 global data centers online now – Geneva and Boston
- 44 remote / branch offices world-wide
- Over 30 business critical applications behinds ‘Application Front End’

## Results – Highlights, using an AFE:

- Websphere – server offload of 150%; compressed content by 88%; user performance 2-4x faster
- Siebel – Substantial server offload; transparently added SSL; improved performance 2x
- Manugistics – compressed content by over 90%; improved user response over WAN by nearly 400%
- Myserono – custom applications – on average, improved performance by 50% ~ 100%
  
- Appliances in the data center only – not required at each branch office

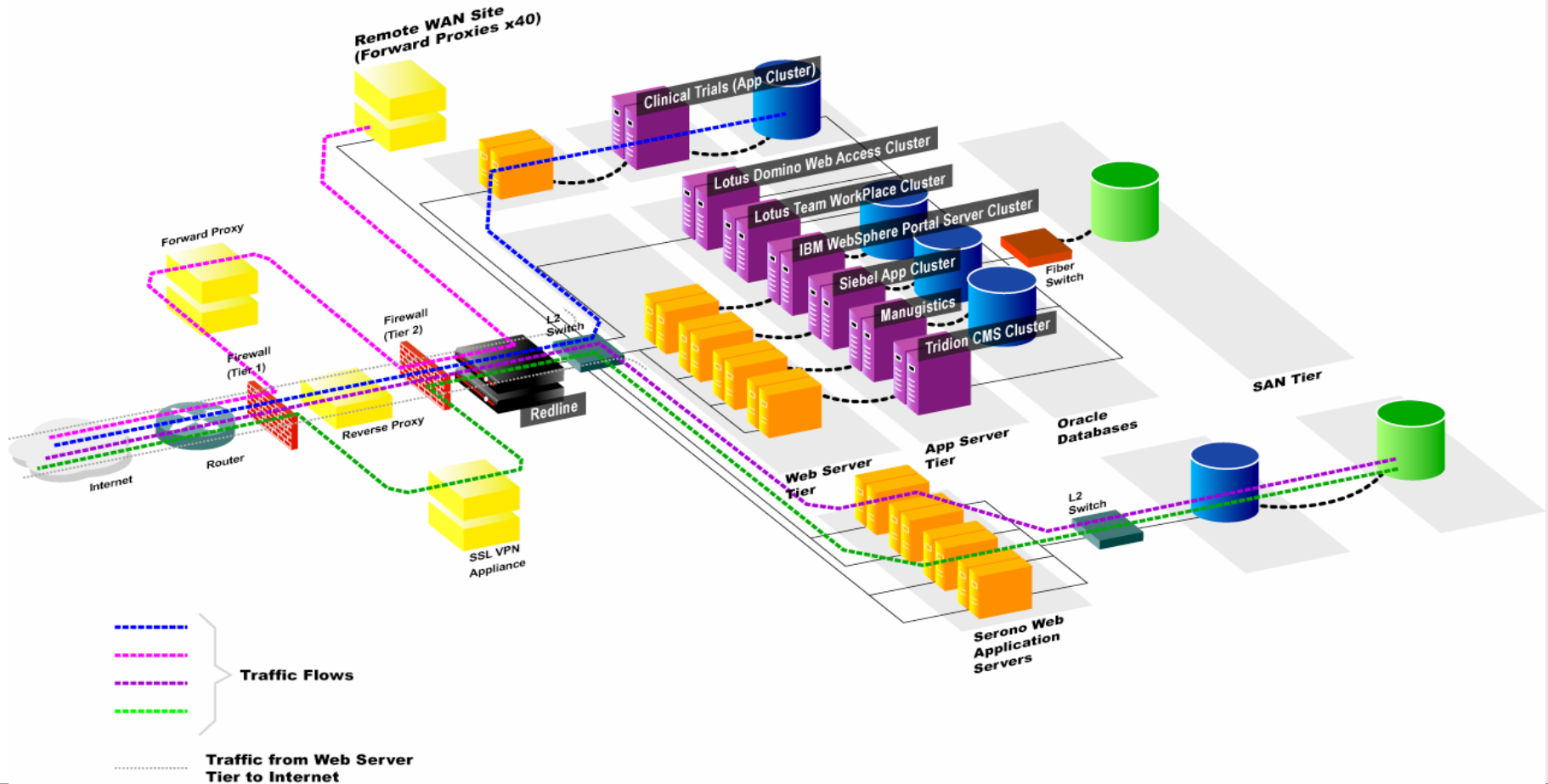


# Example Customer Network – Serono

## Serono

### Geneva Data Center Network Diagram

October, 25, 2004



# Conclusion

- **Enterprise Web is fueling evolution of the AFE category**
  - Vendors are scrambling to shift from SLB to AFE
  - From capacity-driven buying to complexity management-driven buying
  - AFE category represents \$1 billion category
  - Layer 4-7 SLB market will be absorbed into a larger AFE market
  - Driven by reduction in hardware requirements and proliferation of enterprise Web apps
- **Technology requirements shift from sheer throughput to real world considerations**
  - ROI vs. speed
  - Page download speed/rendering accuracy
  - Granular control capabilities
  - Impact on server/network capacity/choke points
  - Bandwidth consumption
- **AFE technical requirements are driving appliance requirements**
  - For web application delivery, a full HTTP proxy is critical



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# Thank You

For more information on web-enabled data center  
and case studies, please visit:

[www.newdatacenter.org](http://www.newdatacenter.org)

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

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