

Orbital Data

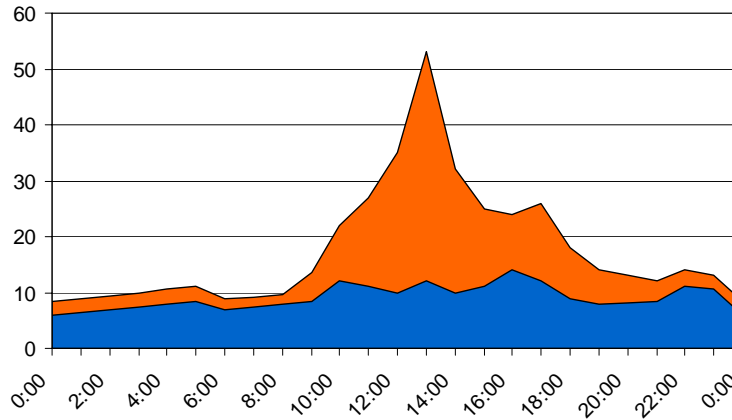
**Delivering FAST and predictable
application response time across
any distance - transparently**



Orbital|Data

Call Center Response Time Profile

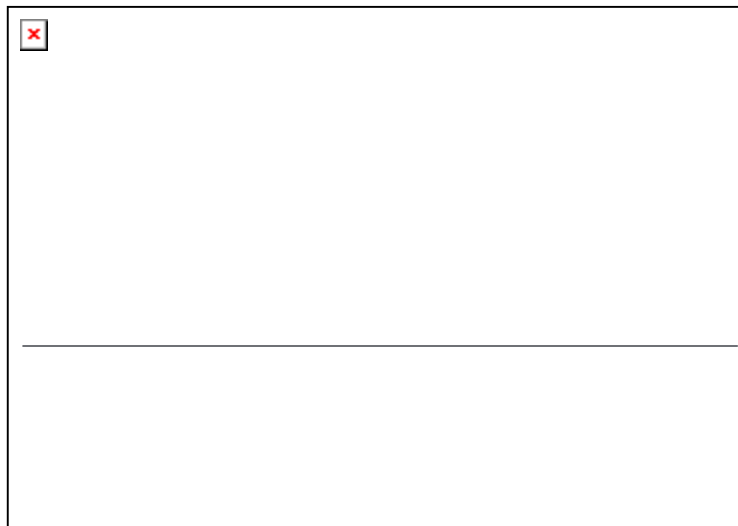
Response Time (sec)



Application response times degrade during peak hours...

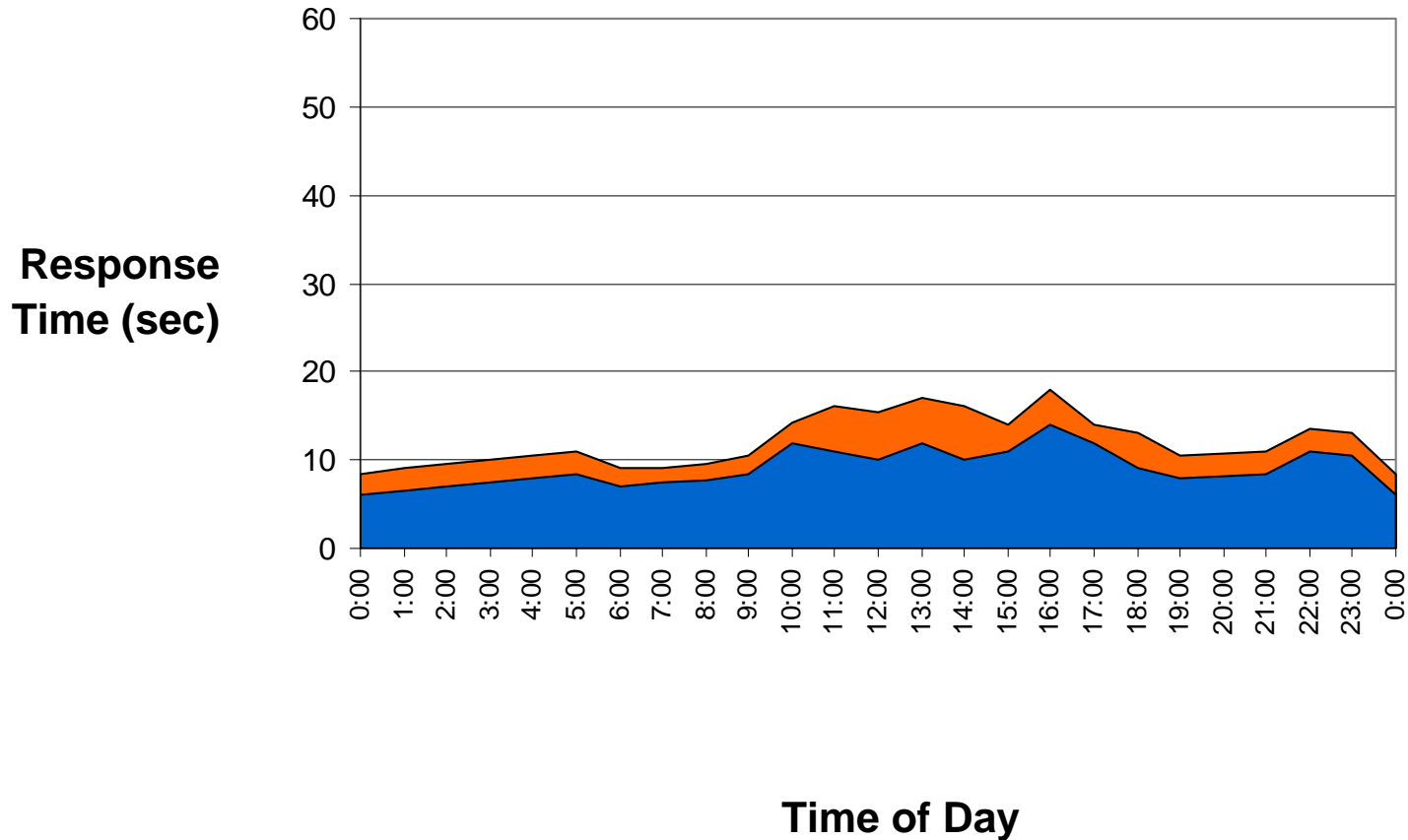
- server response time
- remote user response time

20% Utilization



...Even when network link utilization is modest

Orbital Data Eliminates Random Delays



Why WAN Optimization?

The Good: TCP/IP Networks

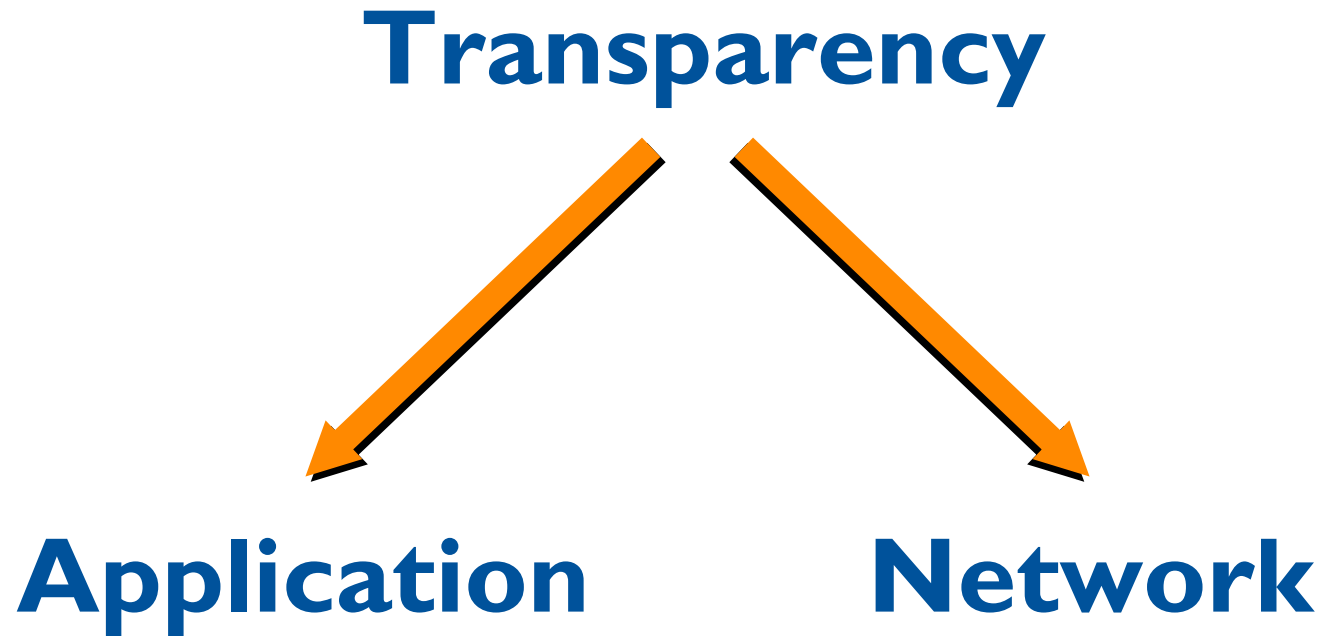
- Scalable and Interoperable
- Economics
- Standard and Ubiquitous

The Bad: TCP WANs

- Limited with Today's WAN Applications
- Loss and Latency

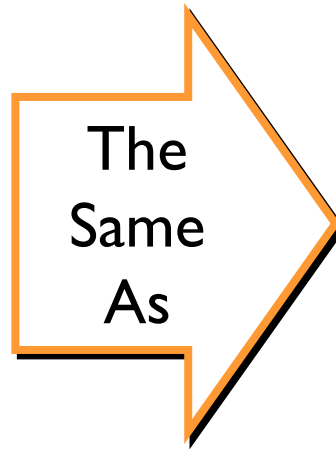
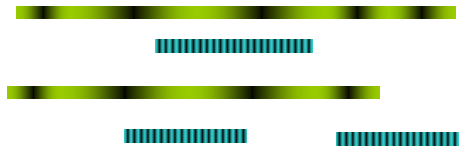
The Solution: WAN Optimization

- Overcomes TCP/IP Limitations – But At What Cost?

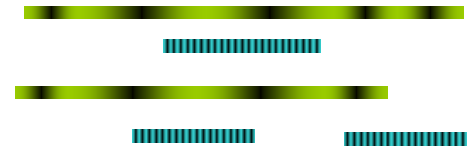


What is Network Transparency?

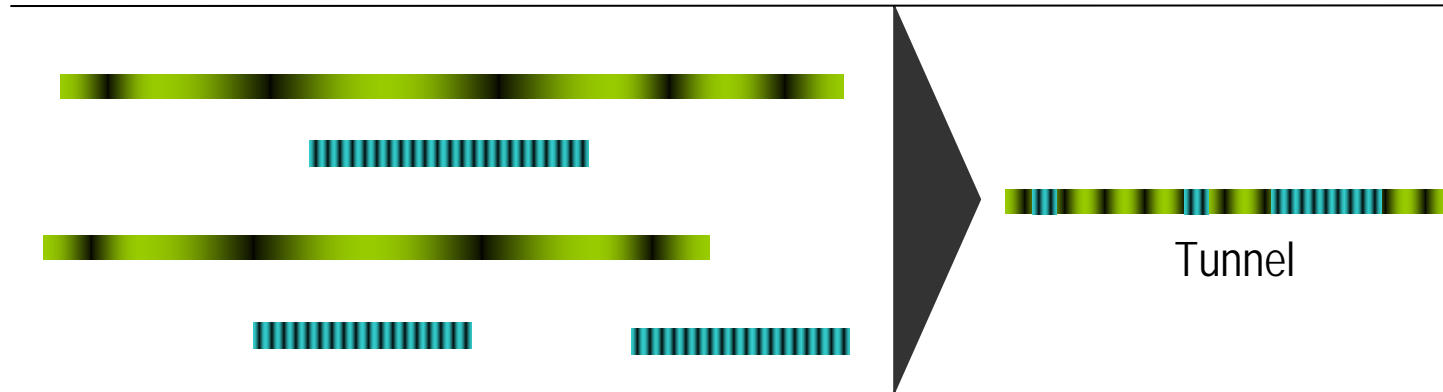
Network Flows Before WAN Opt



Network Flows After WAN Opt



Traditional WAN Optimization



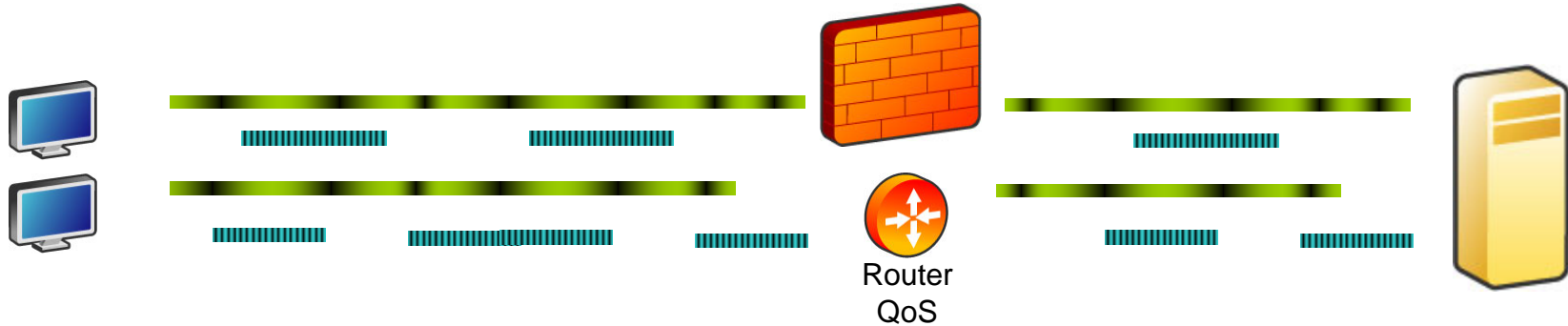
- **Traditional WAN optimization solutions aggregate multiple network sessions into a single tunnel**
- **Considerations**
 - **Installation/Set-Up**
 - **Ongoing Operational Costs**

Business Consideration: Deployment Costs

- **Integration with existing network infrastructure**
- **Amount of time and labor required to configure WAN optimization solutions**

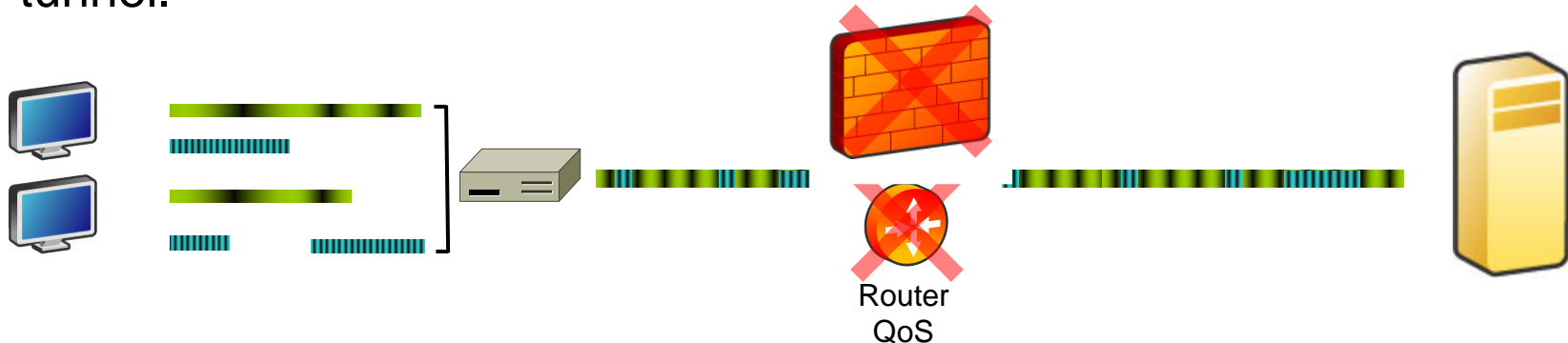
**Non-transparent solutions can
increase deployment costs by 70%.
The larger the enterprise, the greater the cost.**

Example of Higher Deployment Cost: QoS & FW Incompatibility



Router QoS (such as Cisco AutoQoS) cannot prioritize traffic when multiple sessions are combined into a single UDP tunnel.

Firewalls are unable to provide security among sessions or perform address translation when sessions are tunneled through



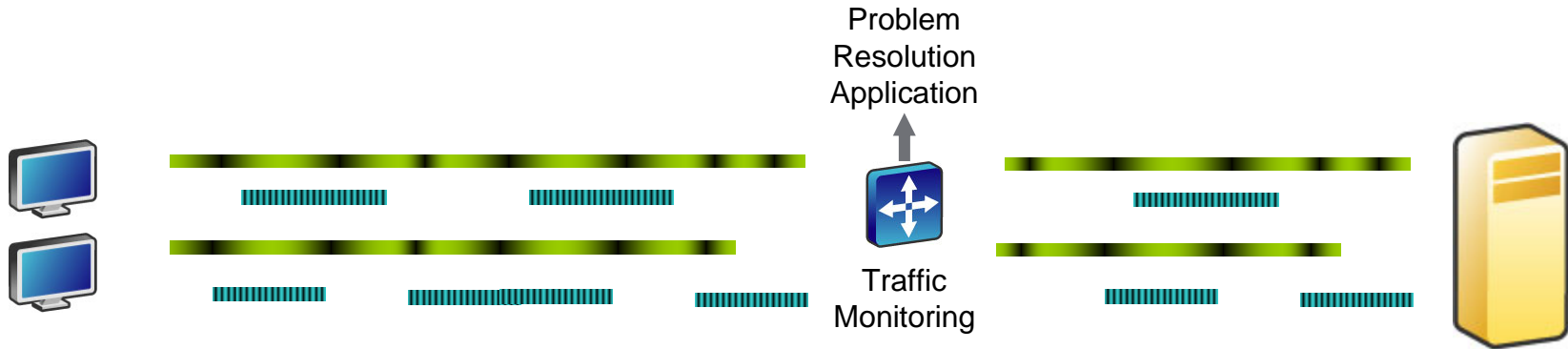
Business Consideration: Operational Costs

- **Approximately 25% of network budgets are allocated to network monitoring and management**
- **Integration with existing Operations and Management tools (OAM)**
 - IP and TCP header information is intact, thereby making problem diagnosis and resolution easy
- **Consider time and labor required to adapt appliances to changes in the application and network infrastructure**

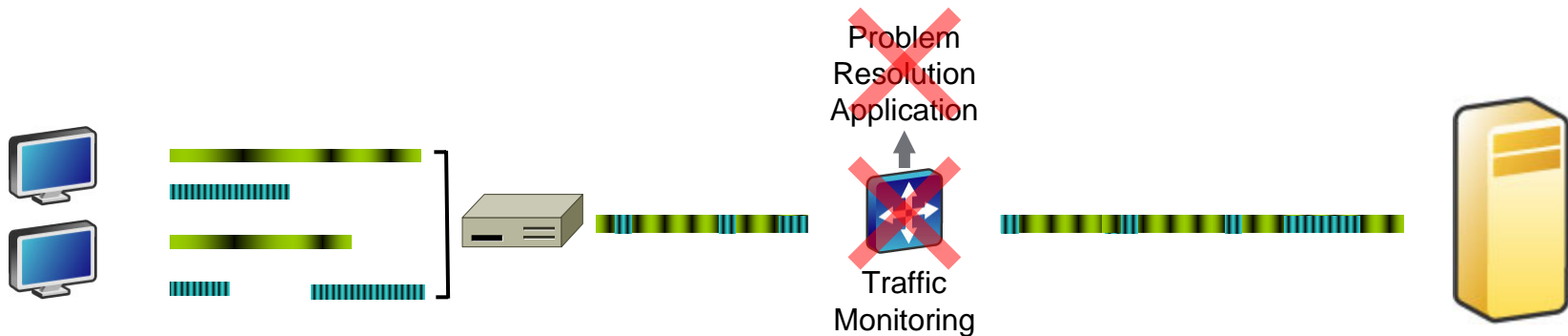
**Non-transparent solutions can
increase operational costs by 75%.**

The greater the existing OAM investment, the higher the cost.

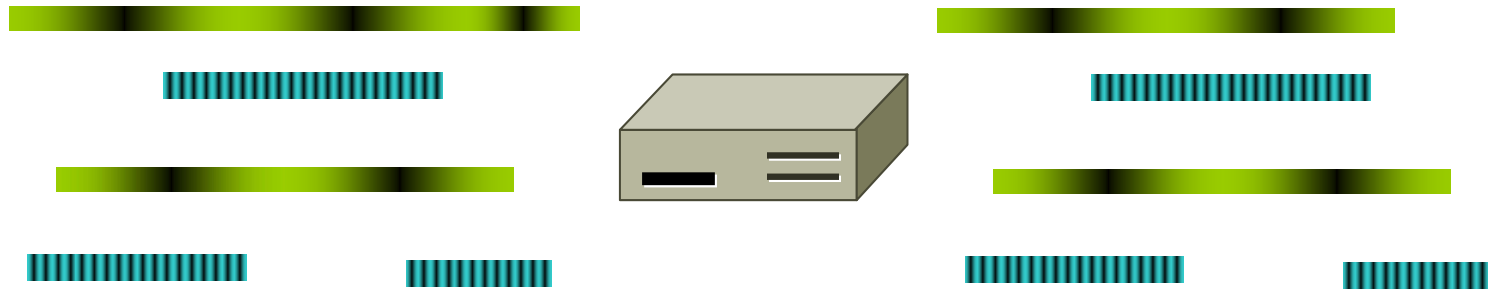
Example of Higher Operational Cost: Traffic Monitor Incompatibility



Traffic monitoring such as Cisco NAM, Netflow, NBAR cannot classify network traffic hidden in a UDP tunnel.

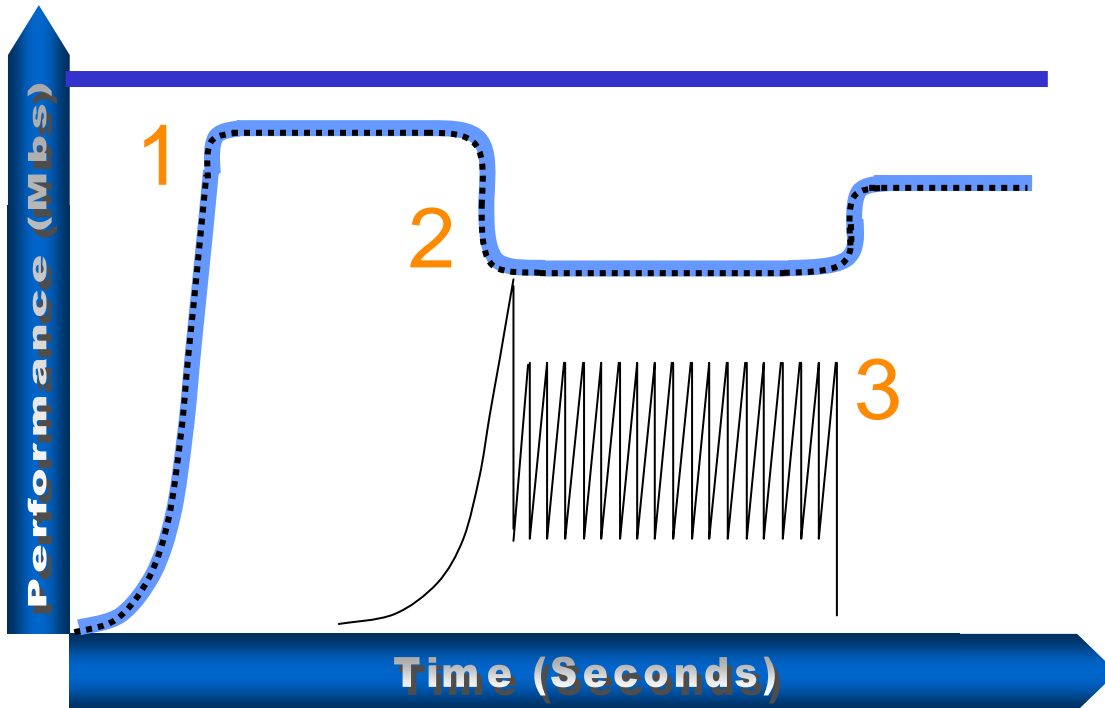


True Network Transparency



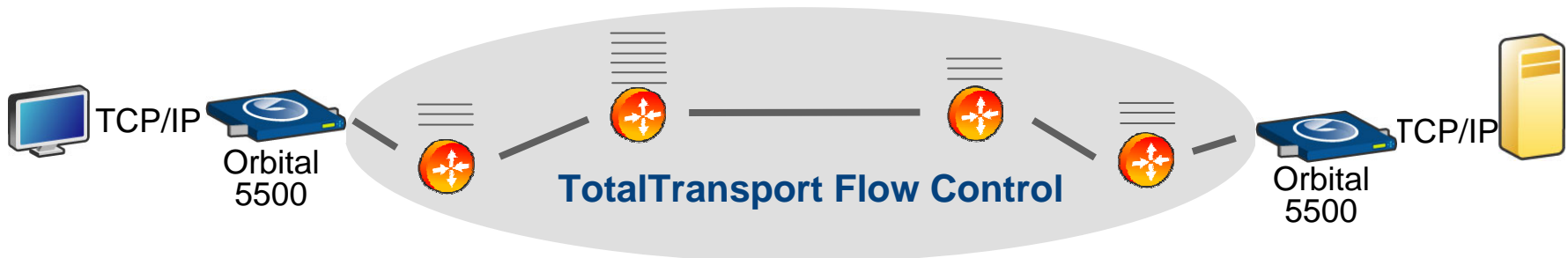
- **WAN Optimization solutions must improve performance and leave data flows intact**
- **Benefits**
 - **Cisco QoS**
 - **Firewalls (Security, Ports, NAT)**
 - **Network monitoring (NAM)**
 - **Configuration-Free Installation**

What is Orbital Data's Flow Control?

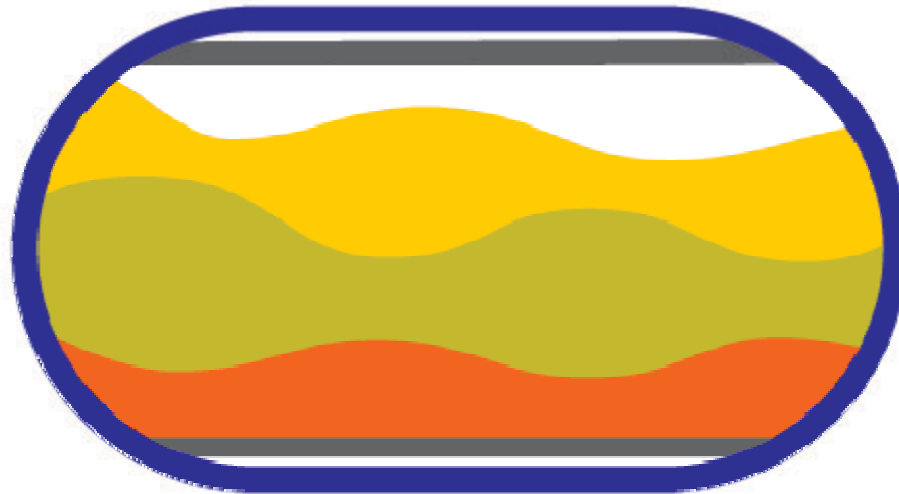


Flow Control

1. High frequency feedback rate on prevailing network conditions = Advanced network health awareness
2. Advanced flow control algorithms make optimal use of available bandwidth = Fill the Pipe
3. Traditional TCP/IP unable to Fill the Pipe



Fill the Pipe; Speed the App



Orbital Application Optimization

