Application Acceleration Basics

Robin Layland

Layland Consulting

Robin@layland.com

Why care about Application Acceleration?

- Remote users complain about response time
- Files and attachments take forever
- Data Center consolidation
- Backups are slow
- Applications moving to HTTP
- Need to get more out of existing bandwidth
  - Save money / reduce cost

Layland Consulting

How: Acceleration Techniques

Compression	Standards based
	Advanced
Caching	Data Center
	Remote
	Browser
TCP	Flow Control
	Connection Pooling
	Error Correction
QoS & Application Shaping	
SSL Off-load	
Application Specific	HTTP
	Microsoft's CIFS
	VoIP
	Others

Layland Consulting

How: Advance Compression

Dictionary, large pattern recognition….

First Packet

Example of using patterns to make a message shorter

Send the entire sentence plus information on the table

Build table

1	Example of
2	using patterns
3	to make a
4	message shorter

Second Packet

Using patterns makes the message shorter

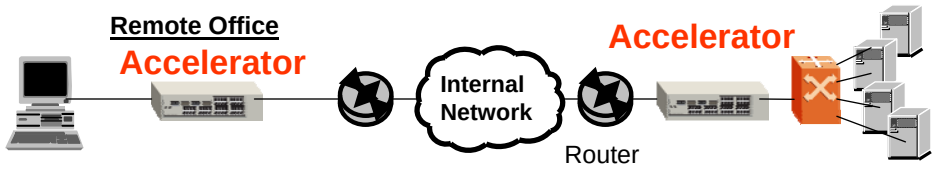
(Reference to entry 2) makes the (reference to entry 4)

Update table

1	Example of
2	using patterns
3	to make a
4	message shorter
5	makes the

Layland Consulting

How: Caching



First time Object is ever requested

Receives & caches ← Accelerator stores object ← Accelerator stores object ← Server sends object

Ask for same object → ←

Browser caching: accelerator tells client to use one in cache

Different Client ask → ←

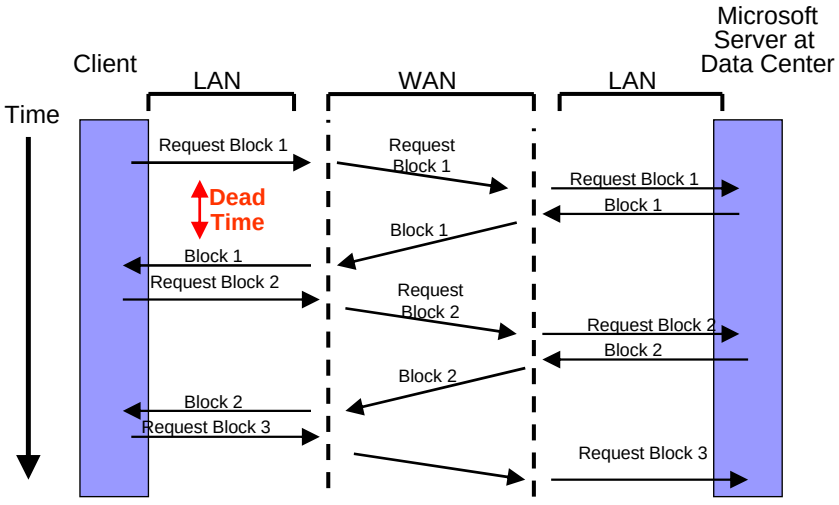
Remote caching: local accelerators sends object to client

1st Request from this location → ←

Data Center Caching

Layland Consulting

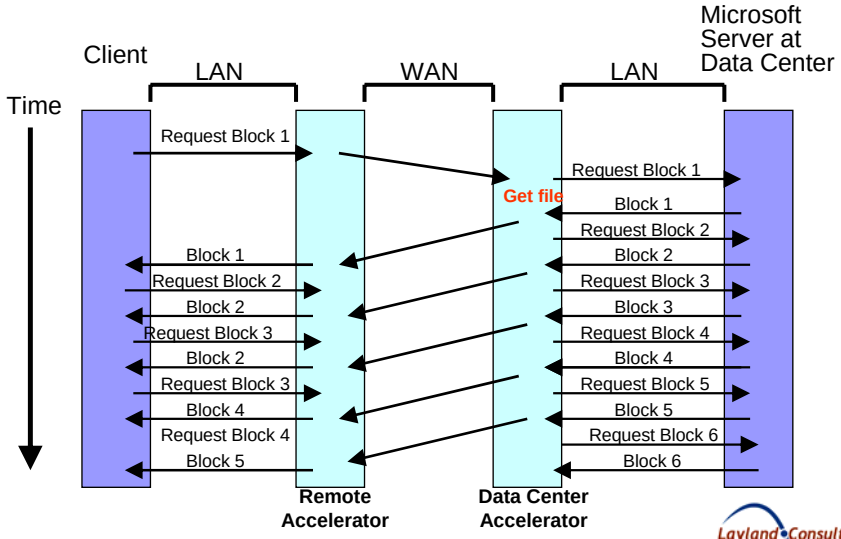
How: CIFS Protocol Problem



Layland Consulting

How: Solving CIFS Problem

WAFS – Wide Area File Server



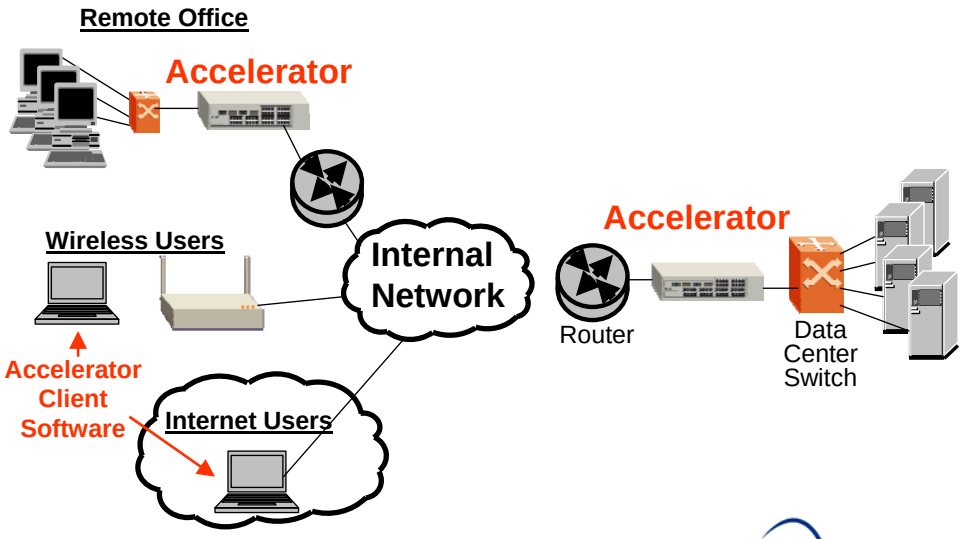
Layland Consulting

How: Acceleration Techniques

Compression	Standards based
	Advanced
Caching	Data Center
	Remote
	Browser
TCP	Flow Control
	Connection Pooling
	Error Correction
QoS & Application Shaping	
SSL Off-load	
Application Specific	HTTP
	WAFS / CIFS
	VoIP
	Others

Layland Consulting

Acceleration: Where?



Layland Consulting

Key Issues

- Good news: Real world feedback is acceleration works
- Differences between implementation
  - Application specific
  - Implementations can vary widely, example if WAFS
- Importance of application monitoring and understanding what is using the network
- Look closely at what special techniques they have
  - Are they working on techniques that help your major applications
- Overall packaging

Layland Consulting

Application Acceleration Presentation

- Asked each vendor to give a presentation on a key issue, techniques or technology they use to accelerate applications
- All the vendors do more than just what they present
- The text part of the Challenge has more details on the vendor's offering

More Information

- To learn more contact each of the vendors
- More information on vendor's web site
- Addition Resources available on topic at Webtorials and Layland.com