



Belgacom Group  
Carrier & Wholesale Solutions

ICT  
to drive Your Business

# WAN Optimization

Network Services



## Agenda

- Why WAN optimization
- WAN optimizing, concepts

Data reduction  
TCP optimisation  
Application acceleration

- Deployment , solutions
- Vendors

## QOS Introduction...

- VoIP implementations
- Critical traffic competing within a Class

## WAN Optimization & Traffic Acceleration

### Application Acceleration

- Centralized TCP applications
- LAN-like speed to the branch

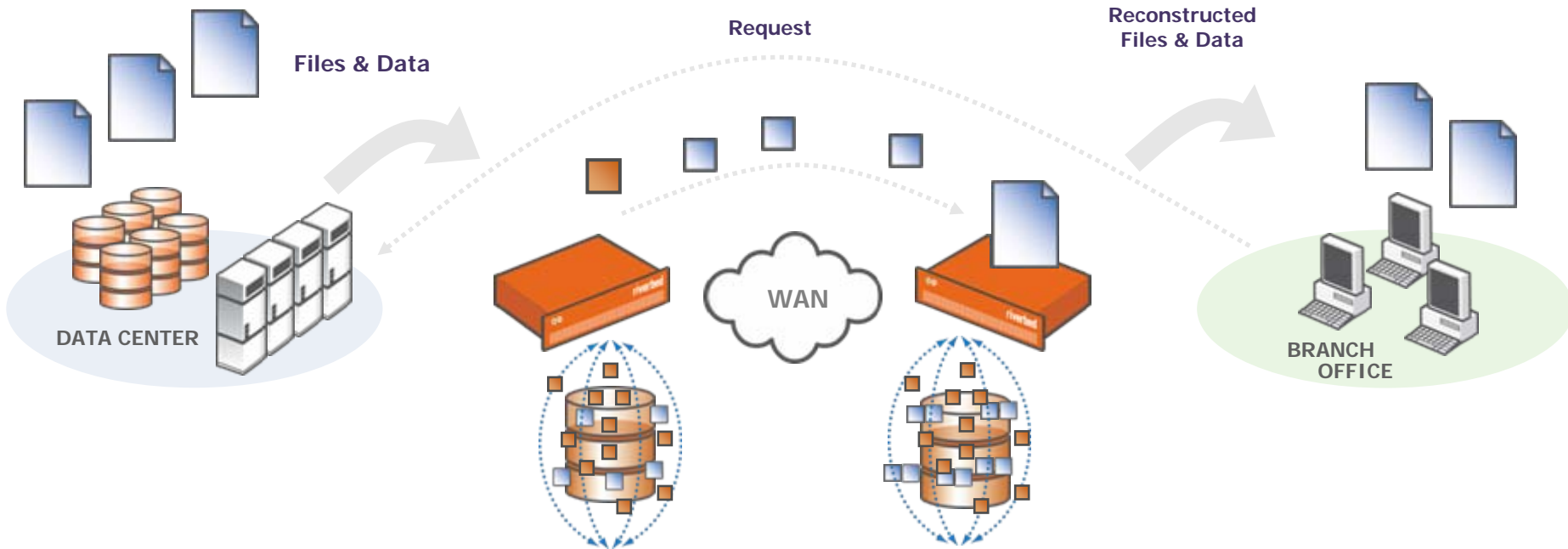
### Branch and Data Center Consolidation

- Server/storage/networking consolidation
- Reduced branch TCO
- Simplified management & support

### WAN Bandwidth Optimization

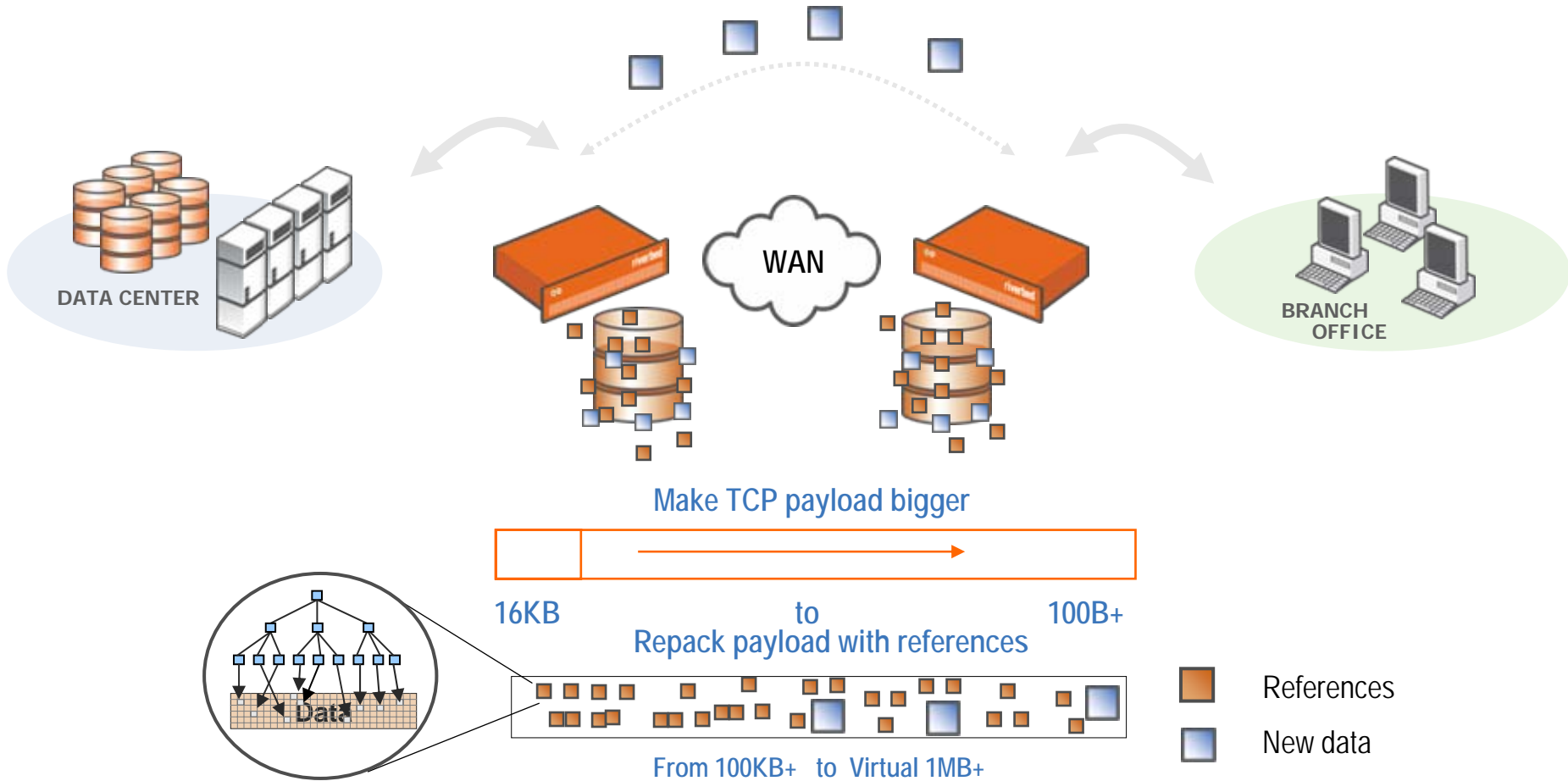
- Reduce bandwidth expenses
- Improved VoIP quality
- Improved application performance management

# Belgacom Carrier & Wholesale Solutions Network Services Data reduction concept

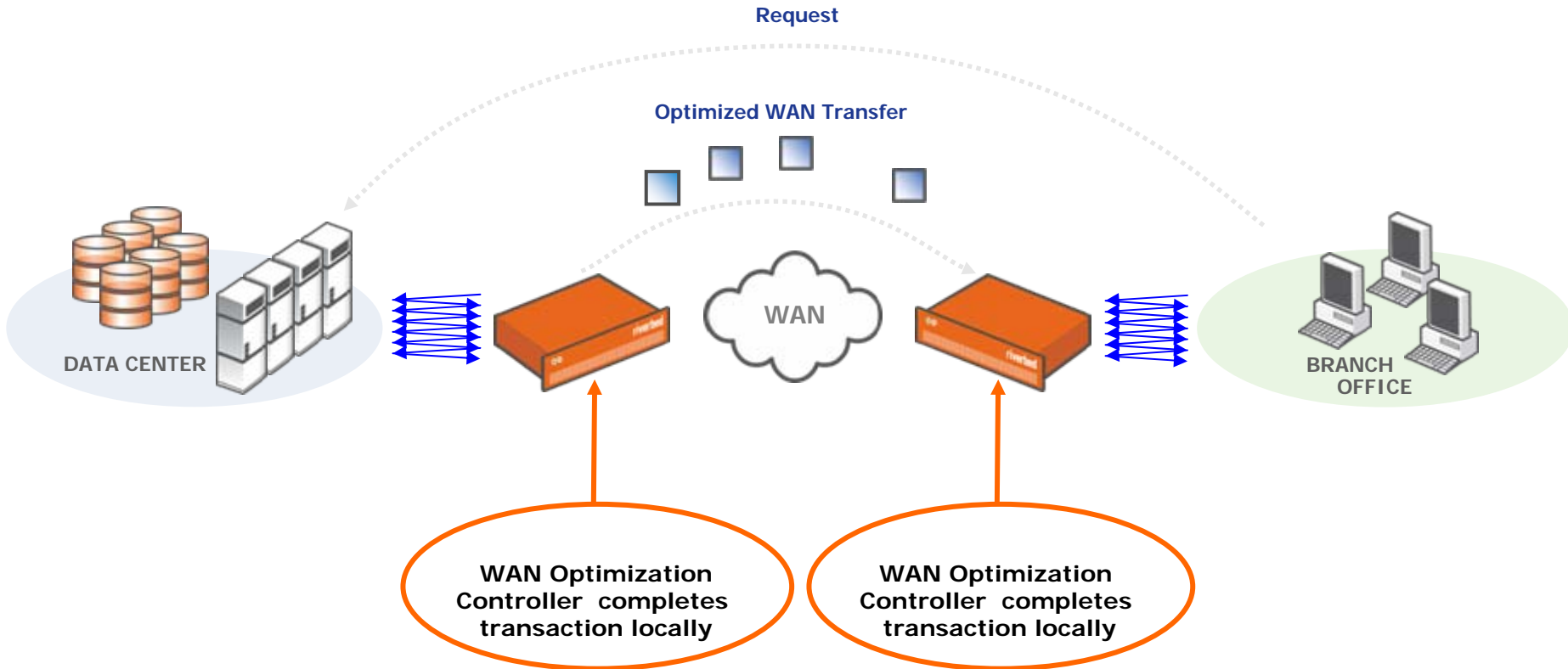


- Requests go directly from the client to the server
- Controller auto-intercepts response, and segments data
- Only new bytes compressed & sent over the WAN
- 16-Byte references communicate megabytes of existing data
- Remote Controller reconstructs data and delivers it to the client

# Belgacom Carrier & Wholesale Solutions Network Services TCP Optimization concept

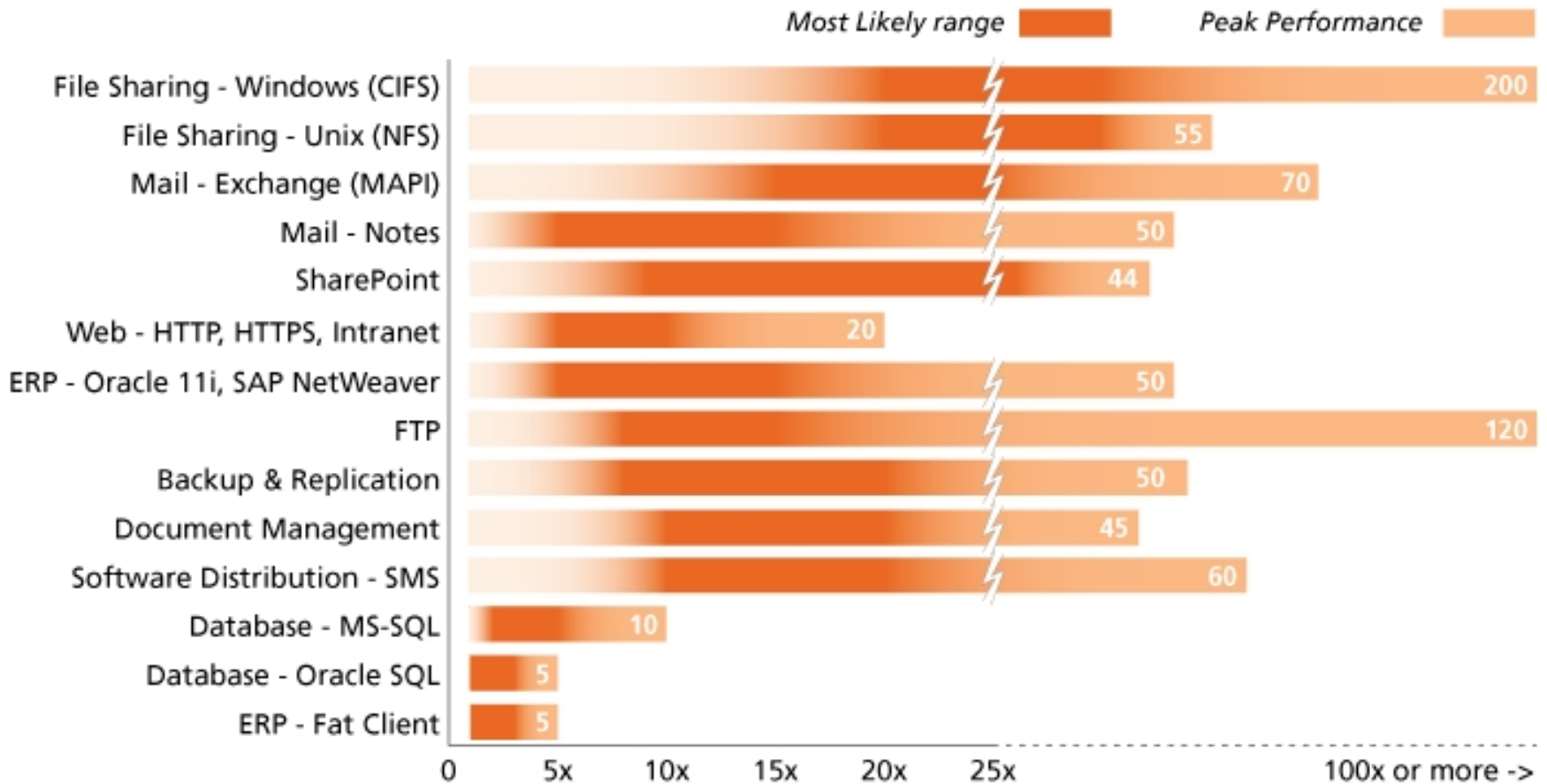


# Belgacom Carrier & Wholesale Solutions Network Services Application Acceleration concept



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## Riverbed's approach accelerates all TCP applications



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## Network Services

### Technical solution description



#### Types of deployment :

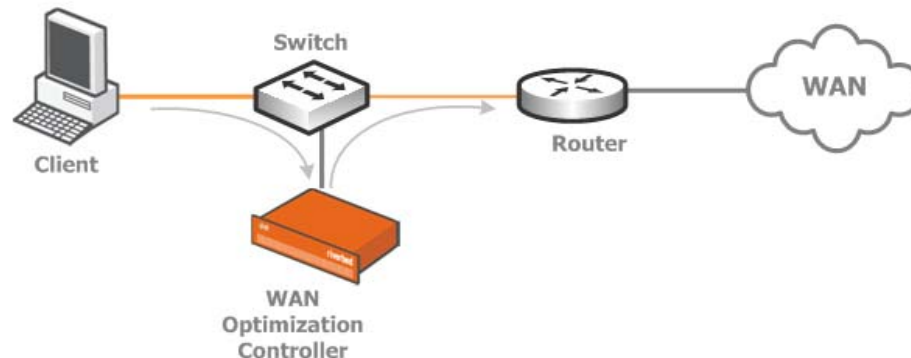
##### **In-path**

- Acts as bridge between LAN switch and WAN router
- Best suited for small branches due to simplicity of deployment



##### **Out-Of-Path (Off-Path)**

- Traffic redirection (Policy-based routing, WCCPv2, L4 switching)
- Adds complexity, mainly used in datacenter set up



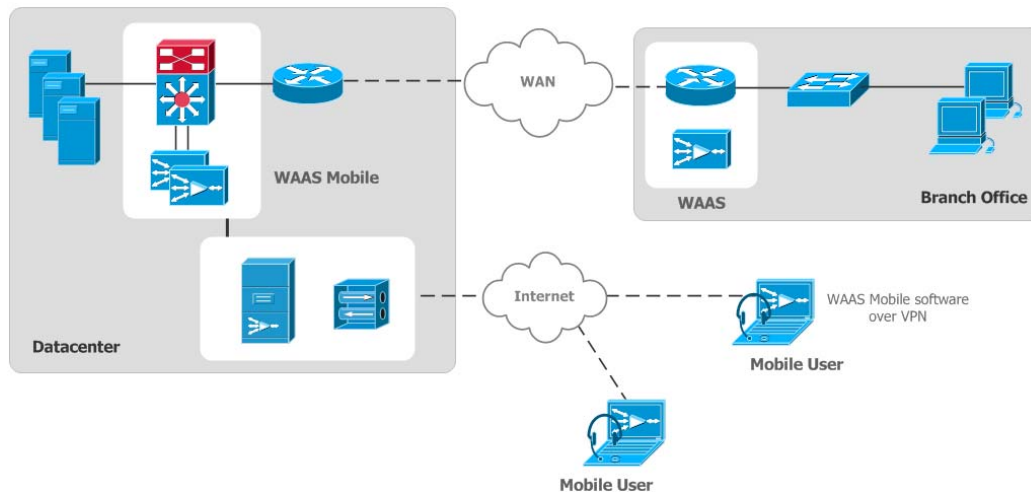
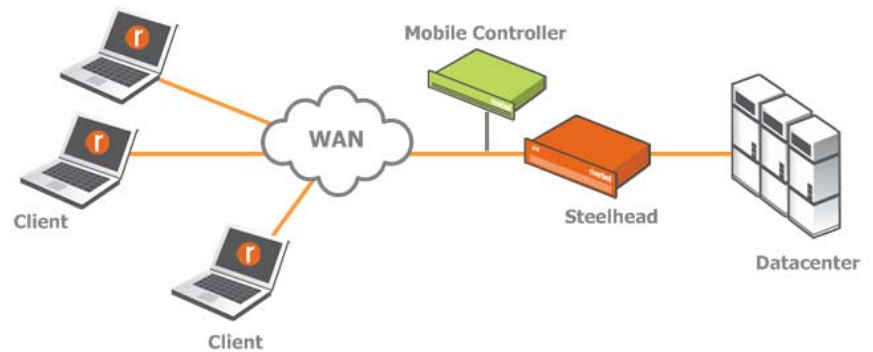
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## Network Services

### Technical solution description

#### Mobile solutions :

- WAN Optimization Controller as software
- Used by remote and home users



### Vendor List

- Riverbed
- Cisco
- Juniper
- Ipanema



**Juniper WX & WXC Platform**  
[Product Line & concepts](#)



**Riverbed's Steelhead appliances**  
[Product Line & concepts](#)



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