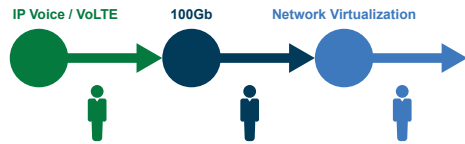# TRIPLE CHALLENGE
## De-risk New Service Provider Technology Deployments

Gigamon®

Sequential Deployment Challenges
- The same resource can efficiently be re-deployed from one technology deployment to the next
- The Triple Challenge technologies prevent this smooth re-deployment of resources from happening

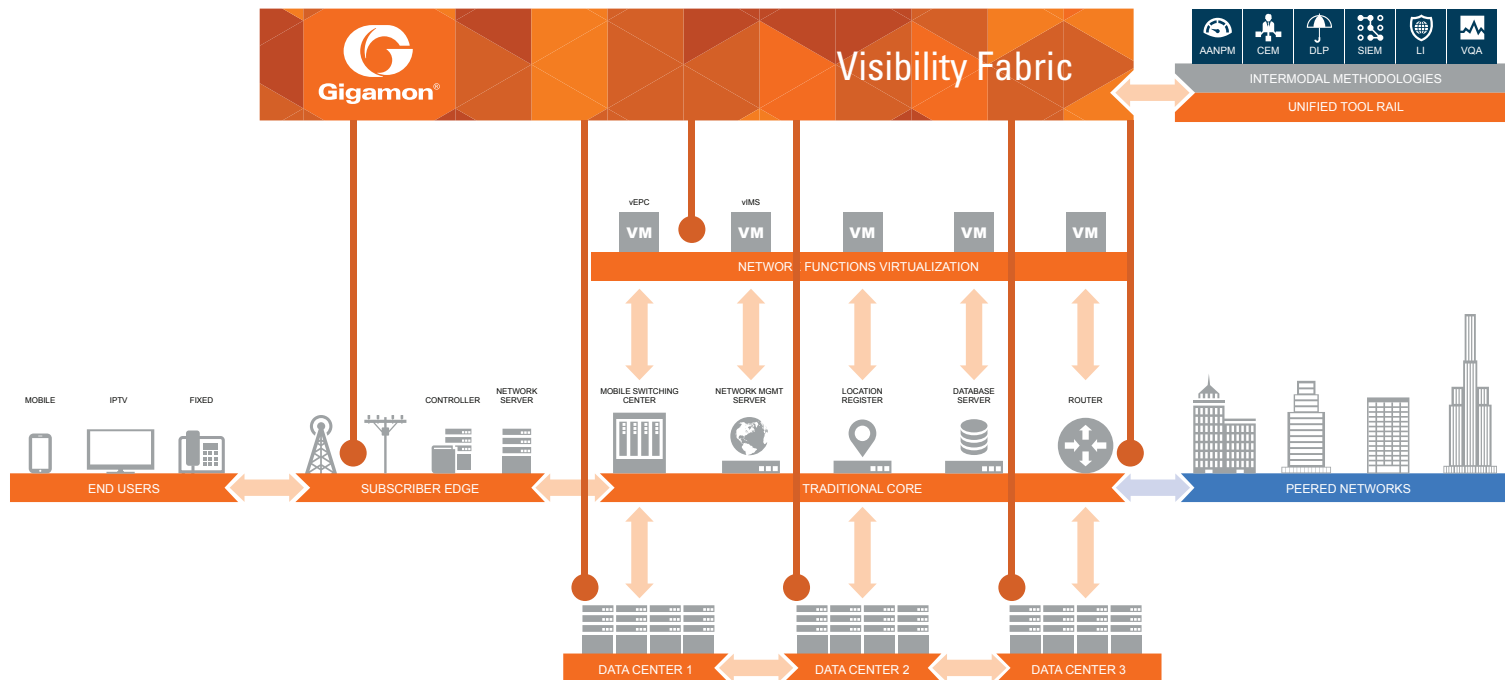IP Voice / VoLTE   100Gb   Network Virtualization

Parallel Deployment Challenges
- Due to the knock-on impact and dependent nature of each technology, projects are started in parallel
- More resources are needed to de-risk the deployment of the Triple Challenge technologies

IP Voice / VoLTE

100Gb

Network Virtualization

IP Voice / VoLTE

100Gb

Network Virtualization
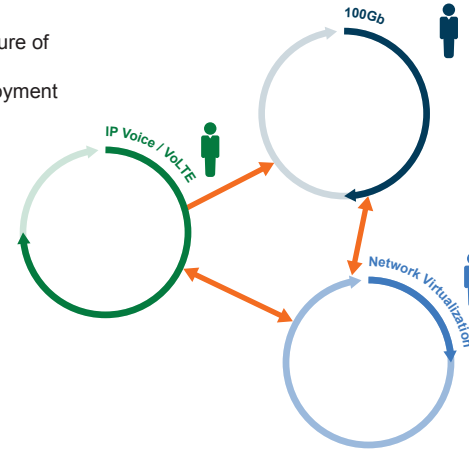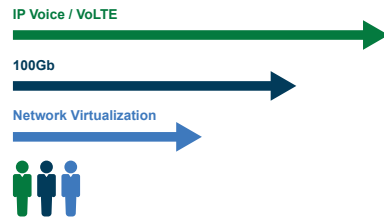
What are the technology interdependencies which force in-parallel technology deployments?
- Deploy IP Voice / VoLTE as a traditional network element; or deploy a vIMS core to deploy IP Voice / VoLTE as a VNF?
- Upgrade the core to overcome perceived IP Voice / VoLTE QoS issues; or wait until data bandwidth requirements force packetization of 2G voice services?
- Upgrade core routers due to anticipated rise of 4G RAN data traffic; or virtualize core routing network elements to enable network data transmission flexibility?

Visibility Fabric

Gigamon®

AANPM | CEM | DLP | SIEM | LI | VQA

INTERMODAL METHODOLOGIES

UNIFIED TOOL RAIL

vEPC   vIMS

VM   VM   VM   VM   VM

NETWORK FUNCTIONS VIRTUALIZATION

MOBILE   IPTV   FIXED

CONTROLLER   NETWORK SERVER

MOBILE SWITCHING CENTER   NETWORK MGMT SERVER   LOCATION REGISTER   DATABASE SERVER   ROUTER

END USERS   SUBSCRIBER EDGE   TRADITIONAL CORE   PEERED NETWORKS

DATA CENTER 1   DATA CENTER 2   DATA CENTER 3

Gigamon Unified Visibility Fabric
- Understanding how each Triple Challenge technology deployment affects other new technologies

- Understanding how each transported traffic type is affected by each newly deployed Triple Challenge technology

- Understanding how Real Time Protocol (RTP) traffic is affected by other transported traffic types on the same pipe

Gigamon Traffic Intelligence
Protection of multi-tiered security deployments
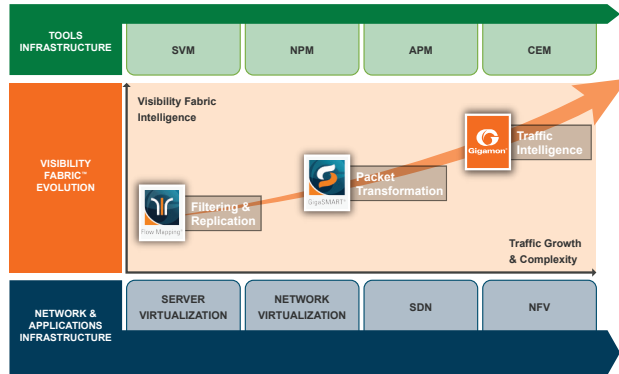
Traffic Intelligence Benefits
• The only way to address the deluge of subscriber offered traffic
• Reduces the amount of data flowing to the attached tools
• Allows tools to throughput process greater amounts of data

FlowVUE™
Intelligently sample subscribers and their associated traffic flows
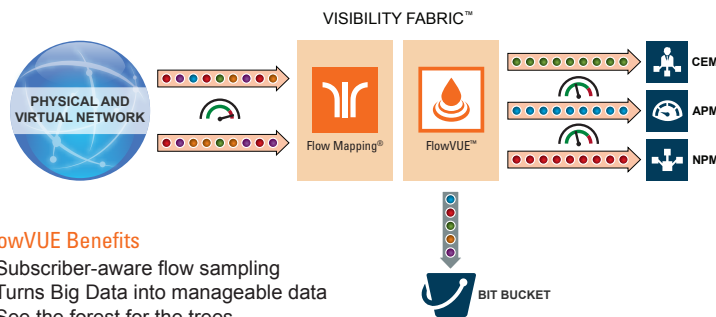
FlowVUE Benefits
• Subscriber-aware flow sampling
• Turns Big Data into manageable data
• See the forest for the trees

GTP Correlation
Subscriber-aware forwarding
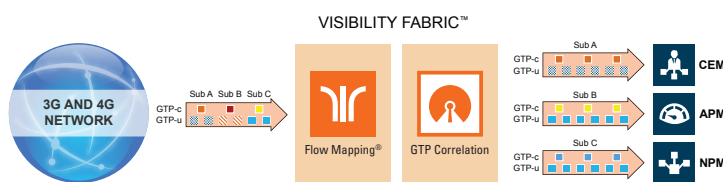
GTP Correlation Benefits
• Removes correlation overhead for tools
• Connect next generation tools with no GTP capability to the network

• Offload complex processor centric overhead to visibility layer
• Boost effective tool processing throughput

Adaptive Packet Filtering
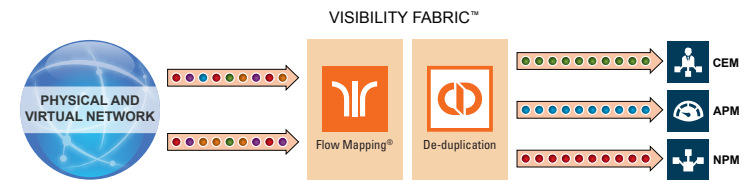Content-based filtering

Adaptive Packet Filtering Benefits
• Content-aware filtering and forwarding
• Filter on VXLAN network identifier (VNID) and other L2-L7 content

• Search on complex patterns with regular expressions
• Mask sensitive data for privacy compliance

De-duplication
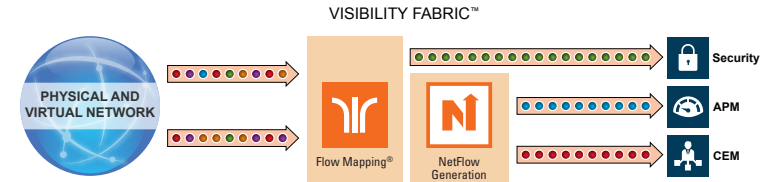Eliminate multiple copies of the same packet within a configurable time interval

De-duplication Benefits
• Reduce duplicated packets

• Increase accuracy and precision of analytic results

NetFlow Generation
Standards-based flow summarization and analytics

NetFlow Generation Benefits
• Offload switches/routers
• Generate NetFlow records for traffic anywhere in the network

• Generate unsampled flow data
• Support up to 6 different collectors