

A vertical bar icon on the left side of the header, divided into four horizontal segments: three green and one grey at the bottom.

CHIMERA

NETWORKIMPAIRMENT EMULATOR

RELEASE SCHEDULED MAY 1, 2019

- PRODUCT DEFINITION
- CHIMERA HARDWARE
- CHIMERA SOFTWARE
 - APPLICATIONS
 - KEY FEATURES
 - ROADMAP
 - MORE INFO



Chimera is a network impairment emulator that makes it easy to analyze the impact of latency, packet loss and other impairments between DUTs in the lab at 10GE, 25GE, 40GE, 50GE and 100GE.



MAIN APPLICATIONS

Service providers, enterprises, and government agencies that own or run networks can use Chimera to validate that they can deliver a satisfactory Quality of Service (QoS) for all voice, video, and data traffic.

This makes Chimera relevant for anyone tasked with ensuring the performance of:

- Financial applications
- Voice and video traffic
- Cloud and network applications
- Enterprise applications
- WAN optimization
- Carrier Ethernet
- Routing and MPLS
- Satellite networks
- SLA planning and validation
- Data centers
- Network security



MAIN APPLICATIONS

Chimera is a valuable tool for NEMs who want to optimize Quality of Experience (QoE) for customers by ensuring their equipment can handle acceptable levels of impairment. This is relevant for manufacturers of:

- Switches
- Routers
- NICs
- Fronthaul/backhaul platforms

Chimera



HARDWARE



Chimera is a 2-cage test module that fits into a Bay (occupying 2 slots) and a Compact chassis





Chimera's impairment functions are accessible directly from **ValkyrieManage**.

A web UI called **ChimeraManager** will be released later this year enabling impairment to be added to traffic between 2 DUTs.

ValkyrieCLI is available for all scripting and test automation purposes.





Highlights

- Integration
 - UI:
 - Integration with ValkyrieManager and - in the future - VulcanManager
 - Easy setup by using Valkyrie stream definitions to configure Chimera flow filters
 - Physical:
 - Chimera test module will fit into a ValkyrieBay chassis
 - No additional footprint when used with the Valkyrie Traffic Generator
 - Data rates:
 - All rates from 100 GE to 10 GE in one test module
 - Future: All rates from 400 GE to 10 GE in one test module
- Small size as a stand-alone application – ChimeraCompact
 - Easy to transport

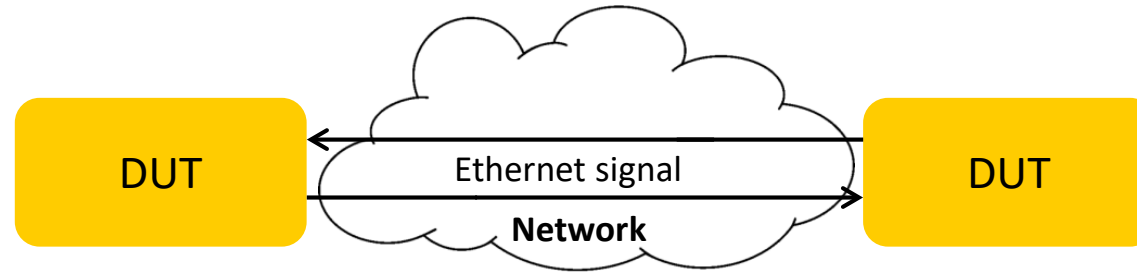


Applications

- Benchmarking
- Stress testing/Negative testing
- “What-if” testing
- Regression testing

Industry Segments

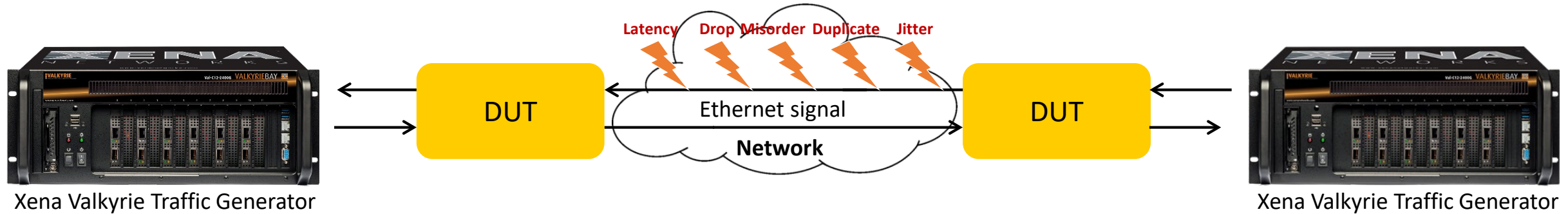
- NEMs
- Financial
- Enterprise
- Telcos



Manufacturers of network equipment needs to test new or updated products. Testing may include transmitting signals through a network:

- Worst-case condition behavior
- Performance testing through an Ethernet network under realistic network conditions

INTRODUCTION TO IMPAIRMENT



You typically use a traffic generator to generate well-defined traffic

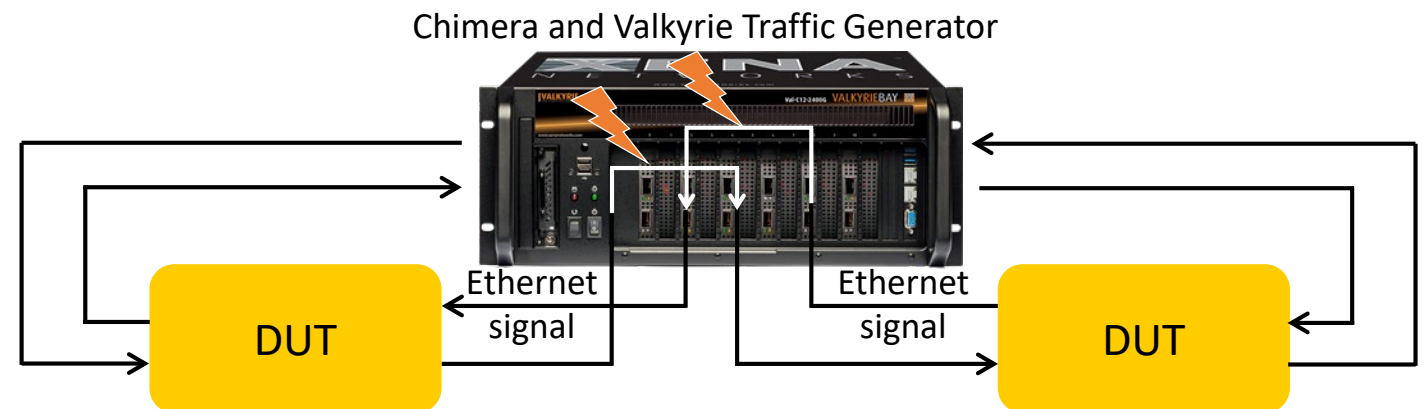
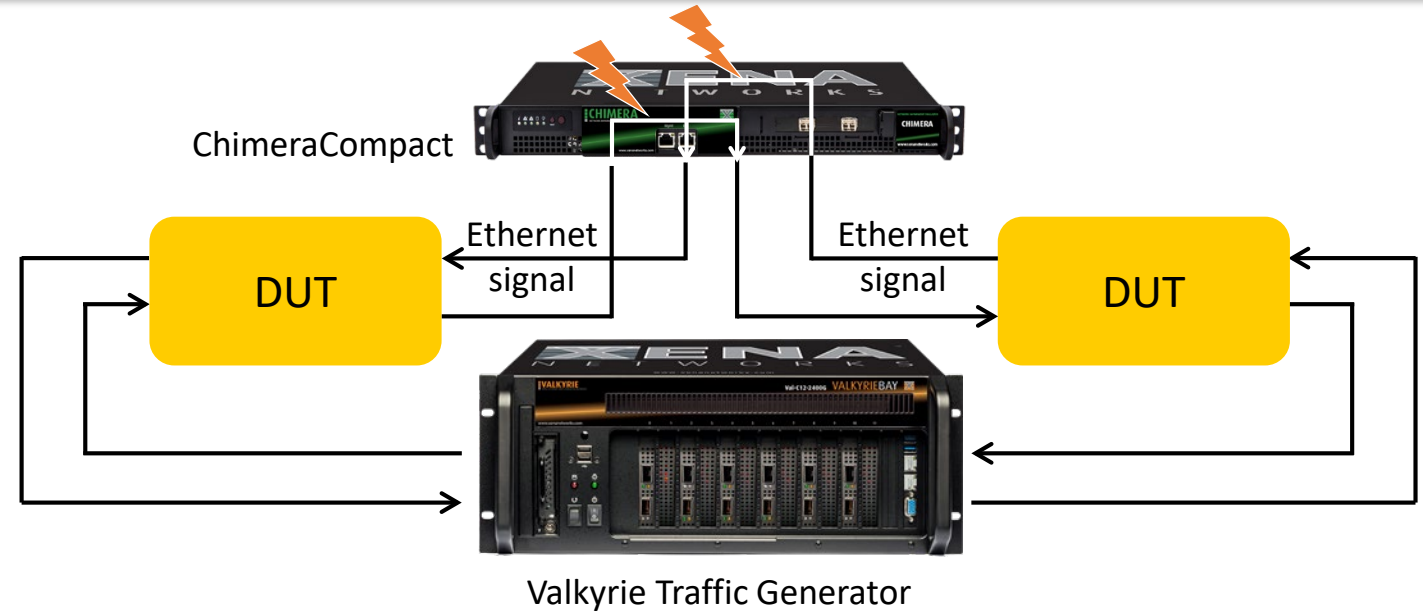
Network behavior can be unpredictable:

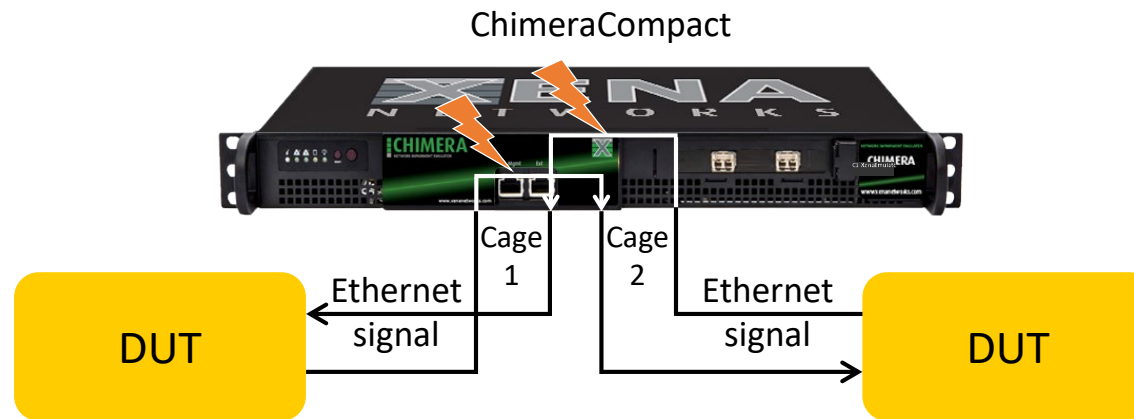
- You will experience latency and maybe also other signal impairments

INTRODUCTION TO IMPAIRMENT

With a network impairment emulator like Chimera you can introduce consistent, accurate, well-defined and repeatable impairments to the traffic between the DUTs – in the lab

- Chimera and Valkyrie Traffic Generator can be installed in the same chassis

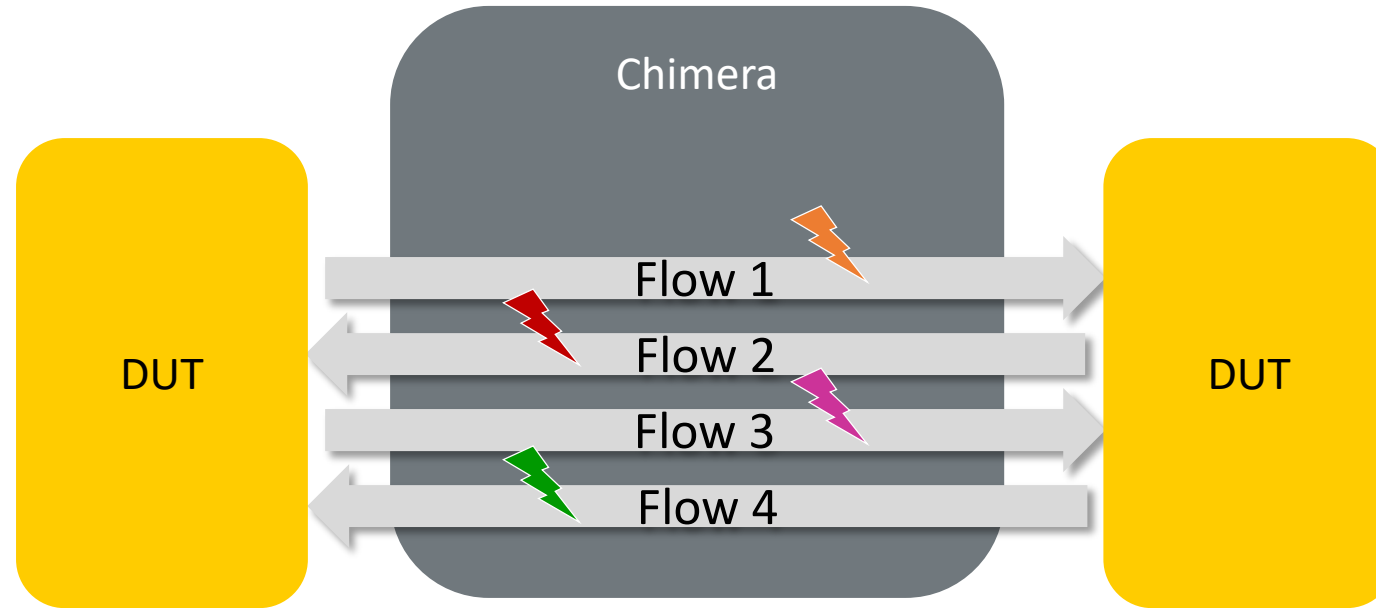




Testing may be also done just using a traffic impairment emulator (i.e. without the traffic generator)



FLAWS

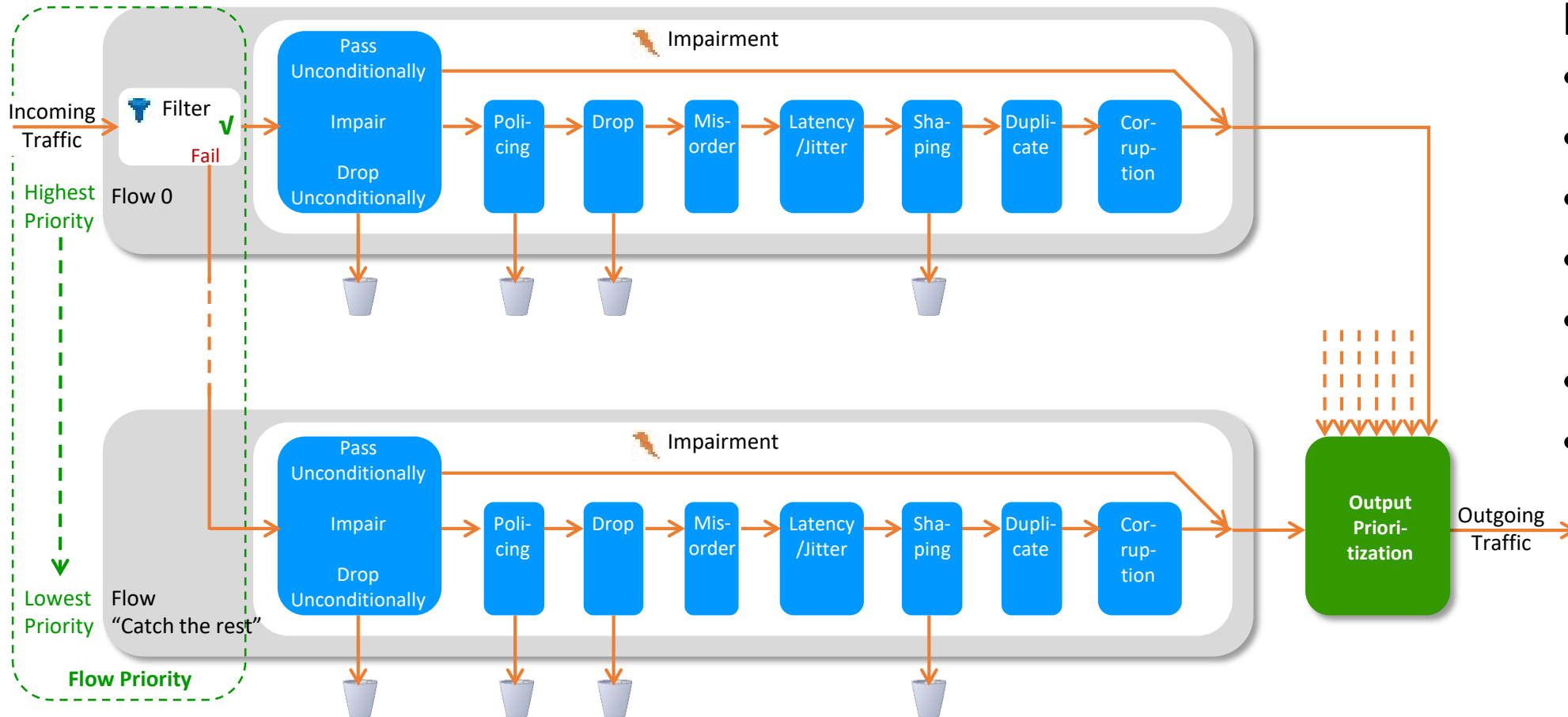


- Traffic is divided in up to 8 flows that are impaired individually
- Flows are defined by protocol contents in packet header
 - May also be defined by Xena Valkyrie test packet ID

Chimera – Introduction



FLOWS



Impairments:

- Drop
- Latency/Jitter
- Misorder
- Duplicate
- Policing
- Shaping
- Corruption

Chimera – Introduction



Roadmap

Chimera Release 1 (May 1, 2019):

- Random Packet Drop
- Constant Latency/Jitter
- Save/recall of Emulator projects



Chimera Release 2:

- Mis-ordering of packets
- Corruption of Ethernet Frame FCS
- Filtering of flows
- Multi-flows



Chimera Release 3:

Packet drop

- Random
- Burst
- Periodic
- BER
- Gilbert-Elliott

Corruption

- IP header Check Sum
- UDP Check Sum
- TCP Check Sum
- BER

Latency / Jitter

- Uniform
- Exponential
- Accumulate & Burst
- Jitter (Gaussian)

Library

- of own impairments

Flows

- Filters
- MultiFlow (MF)



Chimera Release 4:

Bandwidth

- Bandwidth Control
- Bandwidth Shaping

Latency / Jitter

- Jitter (Gaussian)

Library

- MEF-18
- ITU-T G.8261
- G.1050/TIA-921

Flows

- Flow Discovery
- Capture
- MF Output control



Also coming ...

- Chimera-400GE with support of:
 - PAM4 based speeds:
 - 400GE
 - 200GE
 - 100GE
 - 50GE
 - NRZ based speeds:
 - 100GE
 - 50GE
 - 40GE
 - 25GE
 - 10GE