

## Quality assurance for both network (QoS) and customer (QoE)



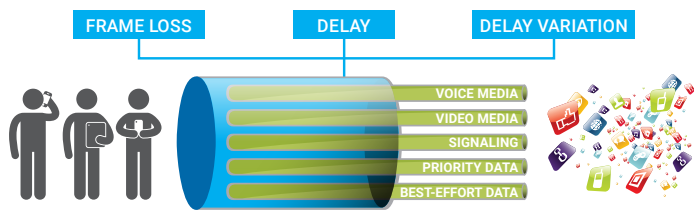
### Integrated QoS and QoE monitoring

**Nova Worx** provides network and service operators with a highly scalable solution for integrated QoS and QoE monitoring to ensure the best possible service and customer experience across dynamic, complex and virtualized networks. Operators can now detect problems and eliminate them before they impact data, voice, video streaming, IoT services or others. Plus, in the event of errors, Nova Worx can provide the insights needed to help eliminate problems as quickly as possible.

Active test probes (**Nova Verifiers**) generate data traffic and carry out end-to-end, or segment-by-segment, tests in the network in order to assess service quality from a network (QoS) or customer (QoE) perspective at any desired time. Different tests from different layers can be combined. This makes it easier to locate and isolate impairments and errors within infrastructure, transport, service and application layers. With Nova Worx, negative trends can be detected in time, and in case of errors, fault clearance can be accelerated significantly.

### Benefits

- **Test and validate in real time:** using a single Nova Verifier, determine service quality from both a network and customer perspective (Layer 2-7) to achieve better overall quality of experience (QoE)



	VoIP		Video		Data			
	Unclear speech	Dropouts	Pops/ Clicks	Delays/ Gaps	Image quality	Playback buffering	Failed transfers	Long transfers
Frame loss	•	•	•		•	•	•	•
Delay				•		•	•	•
Delay variation	•		•		•	•		

Bsp. Layer 2 Monitoring

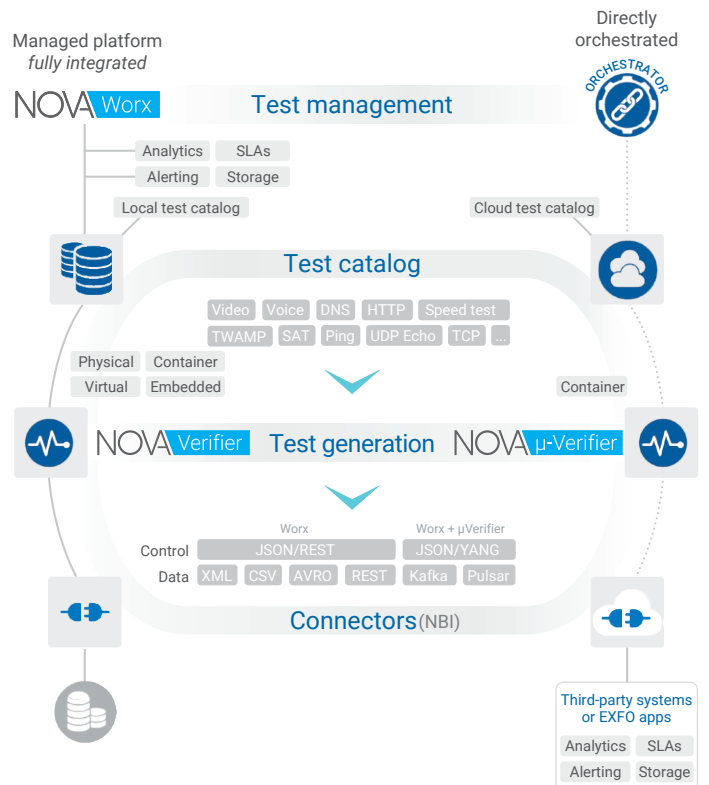
- **Early notification of service deterioration:** learn about problems and take preventive action before customers are affected. Reduce customer complaints and contract/SLA violations.
- **Segmented testing:** for faster fault isolation and reduced MTTR
- **Reduce or eliminate truck rolls:** eliminate guess work, pinpoint problems quickly

### Built-in flexibility

Nova Verifiers are available in physical network function (PNF), virtual network function (VNF), containerized network function (CNF) and software-integrated formats. Mix and match formats as required to ensure full orchestrated or standalone coverage from hardware to cloud, and from customer premise to core.

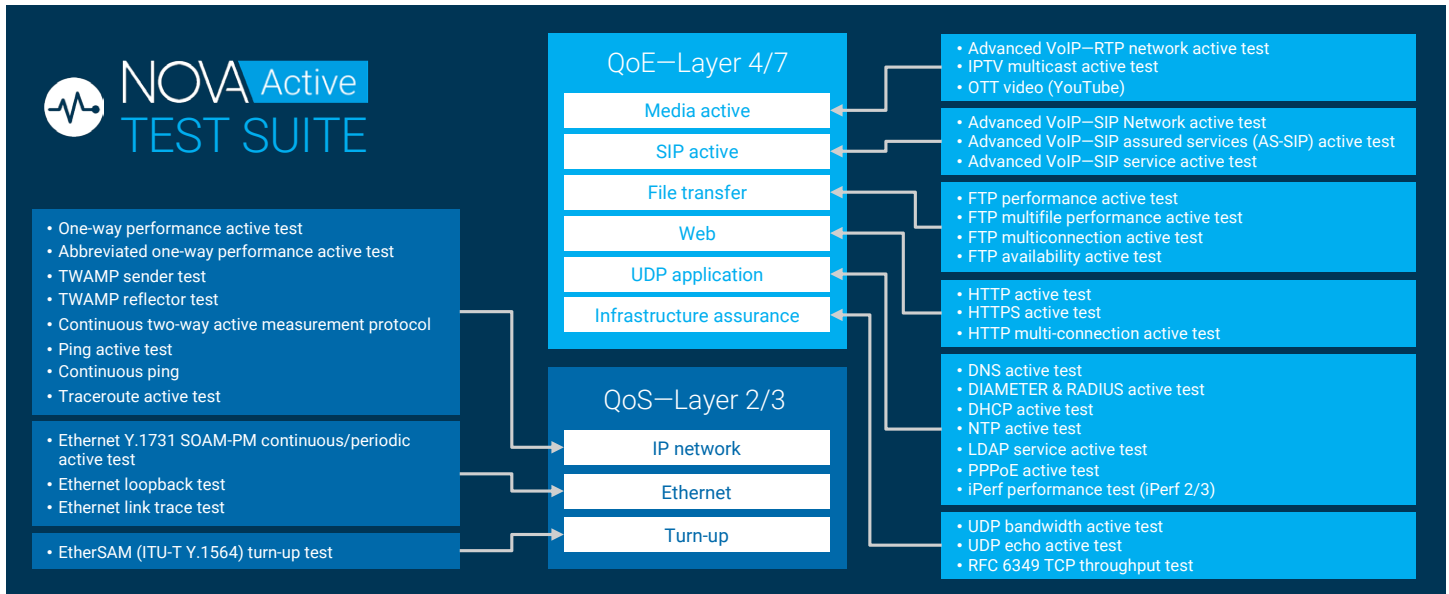
### System architecture

Nova Worx is a scalable and centralized platform with its own database and element manager. It manages Nova Verifiers, including the assignment of test jobs and the processing and storing of test results. Integration into existing OSS/BSS systems is made easy thanks to API's.



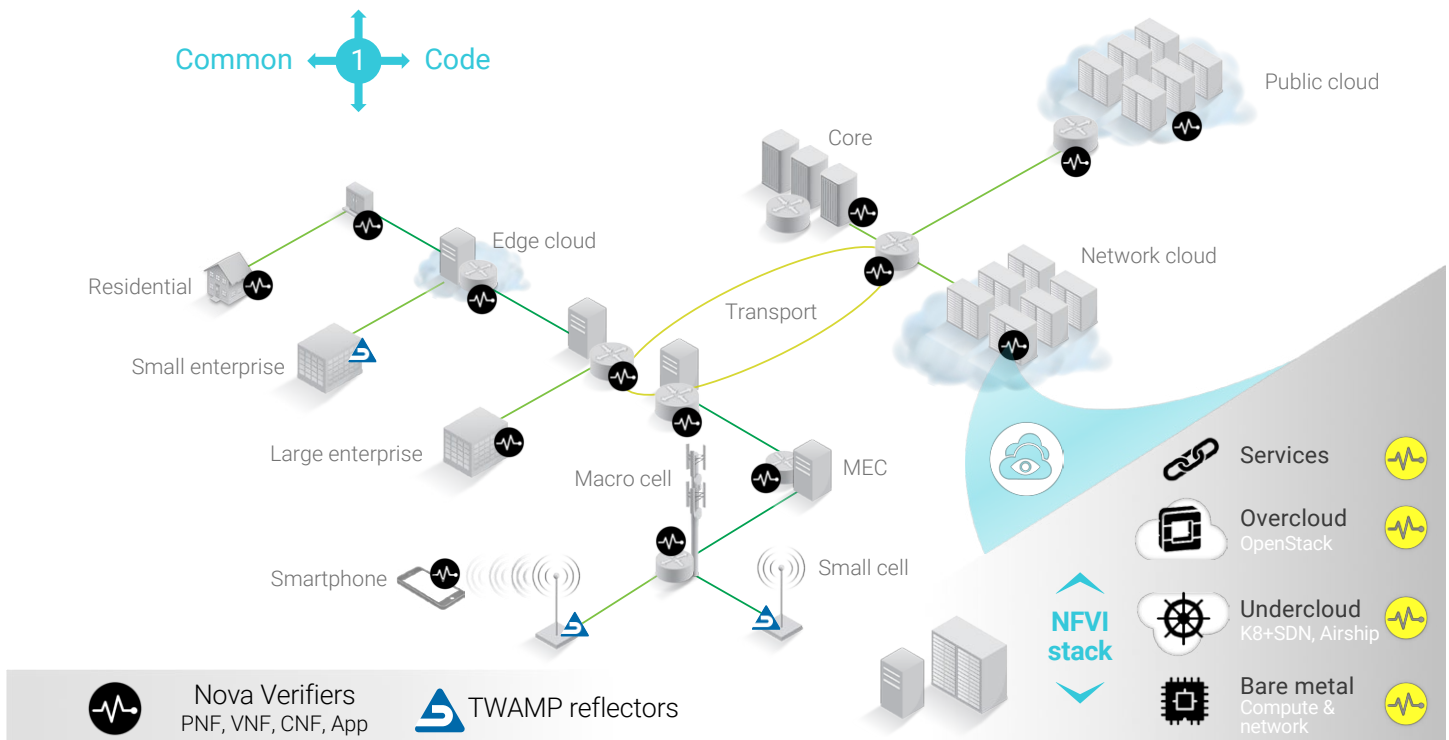
## Extensive test catalog

Working with Nova Worx, the **Nova Active** test suite covers all layers, from service to network and underlying infrastructures. QoE and QoS test functions can be used, for example, from the cloud to the access network or from the core network to the end customer. Only Nova Active provides an overview of the influence that individual network segments may have on service impairments.



## Visibility from Layer 2-7

In addition to the Layer 2/3 transport layer, Nova Active tests VoLTE, VoIP, OTT video, web protocols and more. To get that job done, Nova Verifiers perform more than 100 different tests from the common Layer 2-7 test catalog. A Nova Verifier can execute and combine several different tests simultaneously. This allows the performance on the different layers to be displayed at a glance.



For more information, visit [www.EXFO.com/en/products/service-assurance/monitoring-troubleshooting/nova-worx](http://www.EXFO.com/en/products/service-assurance/monitoring-troubleshooting/nova-worx)