ITU-T The leader on QoS Standards

- ***The ITU-T Lead Study Group on QoS is Study Group 12***

- ***ITU-T Study Group 12 is responsible for end-to-end transmission performance of networks and terminals***

- ***Other ITU-T Study Groups with QoS-related technical activities:***
  - **SG 2** (Operational aspects of service provision, networks and performance)
  - **SG 4** (Telecommunication management, including TMN)
  - **SG 9** (Integrated broadband cable networks and television and sound transmission)
  - **SG 11** (Signalling requirements and protocols)
  - **SG 13** (Multi-protocol and IP-based networks and their internetworking)
  - **SG 15** (Optical and other transport networks)
  - **SG 16** (Multimedia services, systems and terminals)
  - **SG 17** (Data networks and telecommunication software)
  - **SSG** (IMT-2000 and Beyond)

Examples of ITU-T Standards on QoS

G.1000 – Communications quality of service, gives a framework for QoS, so as to establish a uniform approach. Improved consistency regarding QoS is needed in the market, especially in IP-related areas.

G.1010 – End-user multimedia QoS categories, defines a model for multimedia QoS categories from an end-user viewpoint by considering user expectations for a range of multimedia applications, based on tolerance to information loss and delay.

E.800 – Terms and definitions related to quality of service and network performance including dependability, defines quality of service (QoS) as "the collective effect of service performance which determines the degree of satisfaction of a *user* of the *service*."

Y.1541 – Network performance objectives for IP-based services, defines classes of network QoS and specifies provisional objectives for Internet Protocol network performance parameters. These classes are intended to be the basis for agreements among network providers, and between end users and their network providers.

J.163 – Dynamic quality of service for the provision of real time services over cable television networks using cable modems provides for the dynamic quality of service needed in many real time applications.

X.140 – General quality of service parameters for communication via public data networks defines a set of general QoS parameters for public data networks.

International Telecommunication Union

QoS

Quality of Service

Making Communications Services and Technologies into Good User Experiences

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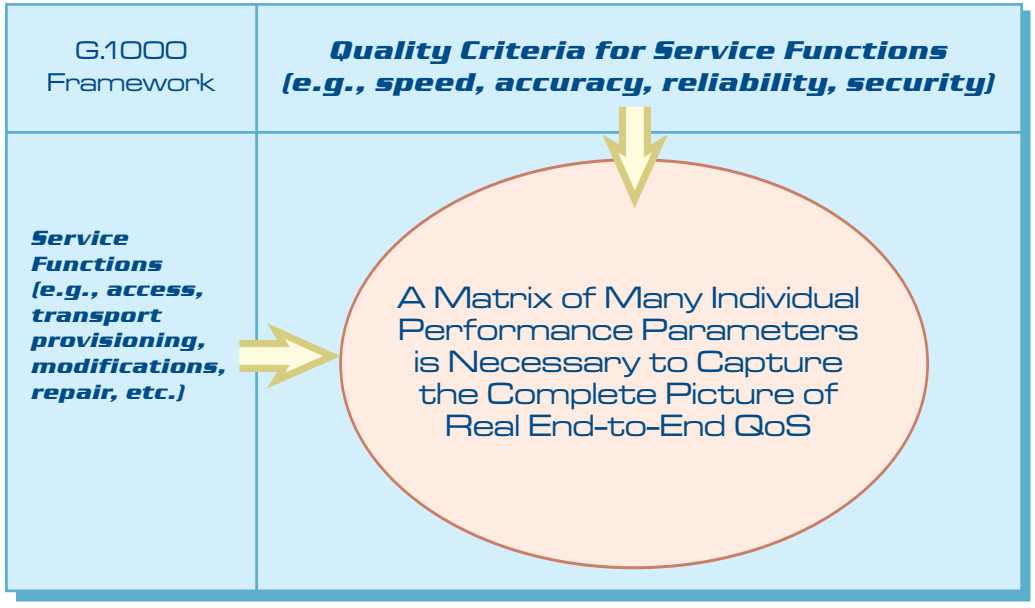
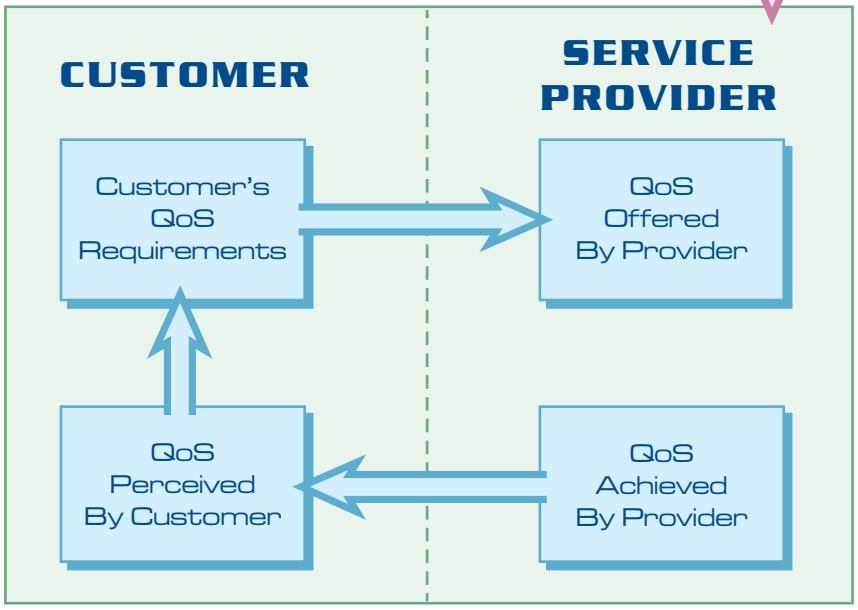
True Quality of Service captures the User Experience

The G.1000 Framework helps capture the many QoS dimensions, and acknowledges that QoS can be viewed from four different perspectives





G.1010 presents user application needs as a function of error tolerance and sensitivity to overall delay (includes delay from servers, networks and applications):

	Interactive (delay <<1 sec)	Responsive (delay ~ 2 sec)	Timely (delay ~ 10 sec)	Non-critical (delay >>10 sec)
Error tolerant	Conversational voice and video	voice/video messaging	Streaming audio and video	Fax
Error intolerant	Command/ control (eg Telnet, interactive games)	Transactions (eg E-commerce, WWW browsing, Email access)	Messaging Downloads, (eg FTP, still image)	Background (eg Usenet)