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**PRESENTATION**

**QUALITY OF SERVICE PERFORMANCE INDICATORS  
FOR CONVERGED SERVICES  
(A REPORT FROM APT FORUM ON TELECOMMUNICATION POLICY AND  
REGULATION  
HELD IN KUALA LUMPUR FROM 17-18 MAY)**

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# Quality of service performance indicators for converged services

(A report from APT Forum on Telecommunication Policy and Regulation held in Kuala Lumpur from 17-18 May)

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## Performance Indicators

Performance indicators may be categorized into two main areas:

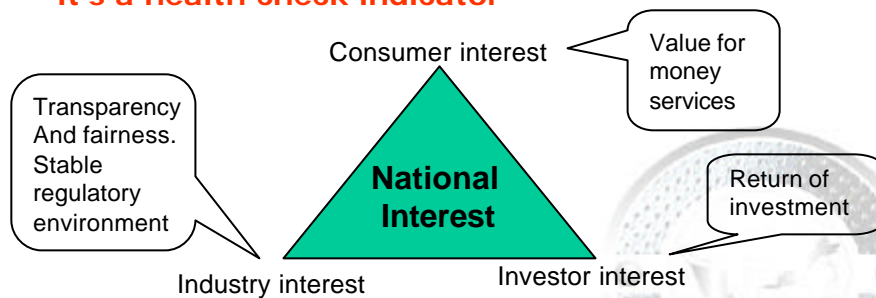
1. Market performance indicators – covering socio-economic areas, market size or volume, revenue, costs, etc
2. Quality of service performance indicators - covering
  - a. **Product quality** – applications and network service reliability and quality. For example:-
    - o Telephony - voice quality and call completion rate
    - o TV broadcasting - video/picture quality, sound quality and reliability
    - o Messaging - delivery times and reliability
  - b. **Customer service quality** – billing, complaints handling, service activation/installation. For example:-
    - a. Billing performance
    - b. Service restoration
    - c. Responsiveness in consumer complaints





## Performance Indicators

**Performance indicators** are for us the do our job well in regulating the industry. These indicators are used to manage and track the market and QoS performance for the satisfaction and benefit of consumers, industry and investor - **it's a health check indicator**



Do we need new indicators and approach to manage the new converged services?

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3

## Convergence has reduced the effectiveness of traditional performance indicators?

1. Rapid advancement of innovative technologies, digitalization and information technologies have lead to the emergence of converged services
2. Systems are evolving to enable a single, consolidated, multi-service network providing integrated voice, video and data access – i.e. network convergence
3. Converged services may be offered by fixed and mobile networks - i.e. fixed/mobile convergence
4. Market development has been influenced by the convergence between broadcasting, telecommunications and IT sectors

Generally, there is a need to re-look at the traditional performance indicators as well as the approach we take in managing the industry as it may be no longer be effective to handle the new converged services.

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4



## What are converged services?

Convergence has resulted in emergence of new services known as converged services

May be defined as services which exhibit one or more of the following:

### 1. Convergence of applications and media

- Applications and media (voice, video and data) that mix and interact to create new services (e.g. receiving a voicemail via email and web enabled call centers)

### 2. Applications service provided across disparate access media or network infrastructure

- An applications service that is delivered across multiple media types (wireless, wireline) or across multiple networks (circuit, packet) or public/enterprise domains (e.g. voice telephony, LAN service over 3G-UMTS and WLAN hot spots, on line games)



## Some examples of converged services

### 1. Voice telephony application service (PSTN telephony)

- delivered across other media/network types such as IP/Internet data network, mobile network or broadband network

### 2. TV/Video broadcasting applications service (terrestrial free to air TV/satellite TV)

- delivered across other various media/network types such as broadband network, IP/Internet network and 3G mobile system

### 3. Messaging applications service

- delivered across various platform in the form of Unified messaging (Mobile SMS, voice mail, internet email, or TV mail)

## Will the approach to QoS performance for converged services be any different?-1/2

1. Converged services generally have its root in the traditional services. For example:
  - a. VoIP service are delivered on IP networks....basically still a voice telephony service)
  - b. TV applications service remains basically the same, although carried over different access media or network infrastructure and with various enhancements (TV applications service over the air or over broadband....with interactivity)
2. Convergence does present complex environment for managing QoS performance that may have bearing on how traditional QoS performance indicators are applied or used to manage the industry. For example, QoS performance in converged services may differ depending on the types of user terminals/access media/infrastructure types.
3. Between product performance indicators and customer service performance indicators, will the indicators and approach be the same? Although the approach to customer service may be the same, but approach to product QoS may be different.

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7

## Will the approach to QoS performance for converged services be any different?-2/2

4. In the converged services environment, defining QoS performance indicators for the complex applications services will be difficult due to creative innovations providing the variety and richness of applications as well as the scalability of quality being offered to consumers. A flexible, light handed regulatory approach to the QoS regime may be required to handle and facilitate converged service evolution and innovations?
5. Do we still require to mandate some minimum or basic set of performance indicators and benchmarks? Need to strike a balance between regulated QoS performance and service providers being required to play a greater role in a self regulated QoS? In regulated QoS, penalties may be applied by the regulator for breach of minimum QoS performance standards. Incentives for quick remedy of QoS issues may also be applied?

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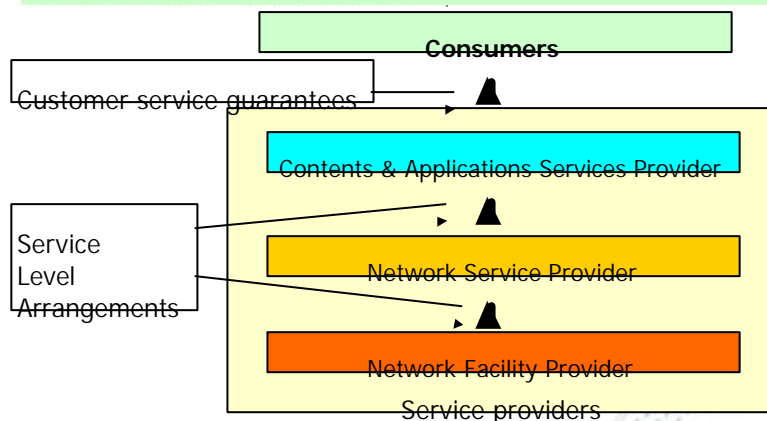
8



## Consumer protection mechanisms

1. In the complex converged services environment a robust consumer protection mechanism need to be in place. More involvement or role of the service providers may be required to provide QoS performance guarantees to their consumers. Non compliance may require them to pay compensation to the consumer. Consumers may get redress via some consumer dispute mechanisms
2. A forum for consumer is also necessary to promote consumer education and awareness as a necessary step to arm consumers to be aware of their rights and understanding on the services offered. Ability to evaluate between price and quality offered.
3. Industry code of practice on quality of service guarantees to consumers however need to provide model procedures in meeting consumer QoS performance requirements and the handling of complaints and disputes.

## QoS arrangements between parties



**In vertically separated markets/players as well as market entry by new players brought about by the converged environment, service level arrangements (SLAs) may be necessary to ensure that applications service QoS performance guarantees to consumers are backed up by SLAs for an achievable/attainable guarantee.**



## Consumer satisfaction research

1. Consumer satisfaction research or study may be conducted regularly and systematically to develop indices for monitoring performance improvement. Carefully developed survey questionnaires and rating scales may provide useful information or insight on consumer service quality matters.
2. The derived consumer satisfaction indices may provide a means/feedback on the state of consumer satisfaction on service quality as well as responses/reactions to the market.
3. Customer perception of service quality which translate to these indicators are generally very subjective, nonetheless it does provide valuable information and another useful tool for market monitoring and development in particular in the complex new converged services environment



## Meaningful QoS Regime for converged service?

1. The complex converged services environment may require a flexible, light handed regulatory approach to the QoS regime. This is light handed approach is necessary to facilitate converged service evolution and innovations.
2. More involvement or role of the service providers may be required to provide QoS performance guarantees to their consumers. A robust consumer protection mechanism need also to be in place.
3. Consumer satisfaction research or study may be conducted regularly and systematically to develop indices for monitoring satisfaction improvements.
4. Service level arrangements (SLAs) and ISO quality systems may be necessary to ensure that applications service QoS performance guarantees to consumers are backed up by SLAs for an achievable/attainable guarantee.



**Thank you**

