ATIS’ 5G Vision and Initiatives

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ATIS in Brief

Alliance for Telecommunications Industry Solutions (ATIS):

Top global ICT companies advance the industry's most pressing business priorities including 5G, the All-IP transition, NFV, big data analytics, cloud services, device solutions, emergency services, M2M, cyber security, and much more. ATIS follows a fast-track development lifecycle -- from design and innovation through standards, specifications, requirements, business use cases, software toolkits, open source solutions, and interoperability testing.
Objective

• Understand, define, and advance North American requirements.

• Focus on:
  • Regulatory
  • Unique network characteristics
  • Potential breakthrough opportunities

• Evaluate North American needs in a global context:
  • Leverage synergies wherever possible
  • Identify new requirements

• Contribute to standards process as required.
  • To be developed by ATIS technical committees
Methodology

• ATIS 5G work focuses on:
  • Network / System
  • Service
  • Coherent LTE/5G network view

• Developing 5G use cases for North American market.
  • Includes assessment of “disruptive” use cases with “breakthrough” potential

• Defining requirements based on use cases.
• Evaluating against global requirements to maximize synergies.
5G Approach

Developing Use Cases
- Coherent Network evolution
- Critical communications
- New Business Models
- Optimized Use Experiences

Identifying Requirements, Architectural Approaches & Service Models

Prioritizing Potential Requirements

Internal Checkpoint Reviews

Developing Final Report and Recommending Next Steps

ATIS Technical Committees

3GPP
## ATIS 5G Matrix and Priorities

**Use Case Focus**

<table>
<thead>
<tr>
<th>Topic</th>
<th>ATIS Priority</th>
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<tbody>
<tr>
<td>Evolution of 4G LTE to 5G</td>
<td>High</td>
</tr>
<tr>
<td>Virtualized Mobile Core with variable mobility and local offload</td>
<td>Medium</td>
</tr>
<tr>
<td>Utilization of Unlicensed Spectrum and Dual Lic./Unlicensed Models</td>
<td>High</td>
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<tr>
<td>Spectrum Sharing and White Space Spectrum</td>
<td>High</td>
</tr>
<tr>
<td>Millimeter Wave RAN Access</td>
<td>Medium</td>
</tr>
<tr>
<td>Expanded SON Use Cases to Address HetNets including 5G Small Cells, Expanded use of Unlicensed Spectrum, etc.</td>
<td>Medium</td>
</tr>
<tr>
<td>New Business Models and Associated Use Cases</td>
<td>High</td>
</tr>
<tr>
<td>IoT Devices and Impacts</td>
<td>Medium</td>
</tr>
<tr>
<td>Use Cases Related to Optimized User Experiences on Smart Devices</td>
<td>High</td>
</tr>
<tr>
<td>Fixed Wireless as a PSTN Replacement</td>
<td>Medium</td>
</tr>
<tr>
<td>NA Regulatory Requirements</td>
<td>High</td>
</tr>
</tbody>
</table>
Multi connectivity across bands & technologies

multi-connectivity improves coverage and mobility

Leverage 4G investments to enable phased 5G rollout
(Initial deployment likely in the Urban areas with higher capacity demand, other areas to follow)
5G Initial Conclusions

• Regulatory:
  • Support evolution of Public Safety Related Applications
  • Support Public Switched Telephone Network replacement
  • Ensure full support for critical communications

• Coherent network evolution:
  • Policy-driven network configuration / reconfiguration
  • Interoperability will depend on spectrum band
    • Focus on interoperability below 6 GHz
    • Focus on service optimization above 6 GHz
  • Enable Mobility on Demand.
Next Steps

• Complete requirements analysis.
• Collaborate with other 5G industry activities:
  • 4G Americas
  • GSMA
  • NGMN
  • ITU
• Publish white paper (Oct 2015).
• Identify priorities to be addressed by ATIS technical committees:
  • Develop ongoing contributions to 3GPP 5G work