Canadian Radio – television and
Telecommunications Commission

Interconnection Steering Committee

Report to the CRTC

by the

Emergency Services Working Group (ESWG)

Deployment of Stage 2 Features for
E9-1-1 Implementation – In Call Location Updates

Report Number: ESRE0050

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Revision History:

Version	Date	Author	Summary of Changes
1.0	July 16, 2009	Judy Broomfield	Initial version proposed to the ESWG.
2.0	July 20, 2009	Judy Broomfield	Minor wording / format changes and addition of ESWG recommendations.
3.0	July 23, 2009	Judy Broomfield	Discussions of EWSG, participant recommendations and "take-ways"
4.0	July 30, 2009	Judy Broomfield	Discussions of EWSG, participant recommendations and final draft.
5.0	August 1, 2009	Chris Kellett	Complete minor format updates provided by Gerry Thompson. Correct timeline order. Final version for filing with CISC for approval and subsequent submission to the Commission.

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1. Background

On February 2, 2009 the CRTC issued Telecom Decision 2009-40 with respect to the Implementation of Wireless Phase II E9-1-1 Service in Canada. Within the decision, the Emergency Services (9-1-1) Working Group [ESWG] received the following direction:

22. The Commission considers that wireless Phase II Stage 2 E9-1-1 features would provide further significant benefits to PSAPs and consumers, and should be implemented as soon as technological solutions are available. To this end, the Commission requests that the ESWG file a report within six months of the date of this decision on its findings regarding the deployment of wireless Phase II Stage 2 E9-1-1 features. Upon review of this report, the Commission will specify the Stage 2 implementation requirements and time frames.

2. Introduction

The purpose of this document is to identify the technological challenges and proposed solutions for the delivery of location information to the PSAPs as identified by the Stage 2 E9-1-1 feature originally referred to as mid – call location update which is now known as In Call Location Update (ICLU).

This report was developed through the combined efforts of WSP, ILEC 9-1-1 Providers, and PSAP representatives.

The ICLU feature only applies to wireless E9-1-1 calls where Phase II Stage 1 location information can be delivered automatically to the PSAP. Handset stages other than "Active" (including roaming) as identified in ESRE0049 will impact the WSPs' ability to provide ICLU PSAP Initiated Request (PIR) Phase II location information to the PSAP.

Where location information cannot be delivered automatically to the PSAPs a non technical interim solution has been proposed.

Specifically, this report identifies the issues associated with the implementation and provisioning of an In-Call Location Update (ICLU) feature, previously identified as mid-call location updates. This will provide the capability for a PSAP to query for updated Wireless Phase 2 position information of a mobile caller.

3. ESWG Approach

After filing the October 31, 2008 Report (ESRE0046) – Technical and Operational Requirements of Wireless Phase II E9-1-1 Implementation, the Emergency Service Working Group (ESWG) continued regular monthly conference calls. This continued work resulted in the creation of a new Task Identification Forms (TIFs). TIF59 was established to specifically deal with issues associated with In-Call Location Updates (ICLU).

TIF 59: Wireless Phase II E9-1-1 In-Call Location Update (ICLU)

The October 31, 2008 ESWG report, "Technical and Operational Requirements of Wireless Phase II E9-1-1 Implementation" recommended, "that the ESWG investigate the ability to provide mid-call location updates (Rebids) for inclusion in a future deployment such as stage 2." Telecom Regulatory Policy CRTC 2009-40, released on February 2, 2009, requests the CISC to file a report on its findings to the Commission by August 2, 2009.

4. Wireless Phase II E9-1-1 In-Call Location Update (ICLU)

Two technical methods were considered for the delivery of ICLU.

A. Automated "Push" Method

Based on the current Canadian ILEC Platform ALI "push' technology, PSAP members proposed that ESWG industry members explore the following as a technical solution.

Automatic pushing of latitude, longitude updates on all calls to be available while the voice call remains active. Frequency/Interval of rebid requests should be no more than may be based on technical limitations but could be set at 30 seconds to start but preferably as much as the network can handle.

The initial proposal for automatic ICLU "pushed" from the WSP location systems via the ILECs 9-1-1 platform at pre-determined intervals. However, the WSPs and ILECs expressed various technical concerns associated with this proposal. Most of these concerns were generally related to issues such as untested technology that has not been scoped out with considerable costs and time to deploy. Network congestion control issues for both ILECS and WSPs. Further that these changes from the current U.S. model would cause WSPs to have to "go backwards" and reconfigure Phase II Stage 1 implementation all over again. Also identified were potential negative impacts on the 9-1-1 callers' handsets in relation to battery life and voice quality.

B. PSAP Initiated Request (PIR)

The query function is hosted at the PSAP equipment, enabling the PSAP call taker to initiate ICLU only when required. The ALI would proxy the requests to the WSP's mobile location determination platform and would return the updated location information to the PSAP over the ALI data path. With this method, The ALI-to-PSAP interface and the ALI application must support inbound data communications. This may be achieved either by modifying existing outbound-only interfaces to become bi-directional or by implementing a brand new protocol.

The Pull method for ICLU is widely used in the U.S. due to the fact that their 9-1-1 infrastructures are by design working in ALI Pull mode.

ESCO 0310 Proposal – Automated Pull ICLU Method (see Appendix "A" for details); In this contribution, The "Companies" (TELUS ILEC, TELUS Mobility, Bell Canada ILEC and Bell Mobility) submitted a recommendation to explore the possibility of using the technical specifications as identified in NENA 04-005 ALI Query Service. [1]

PSAP representative saw several advantages with this approach whereby it will set a 9-1-1 technology standard across Canada. It is believed that a national standard would be beneficial permanent long term for PSAPs and Industry both operationally and in terms of vendor support.

Analysis

The development of a PIR specification, as with any feature development, follows a three-step process: specification, procurement, and deployment. The ESWG identifies the following tasks associated with PIR development:

1 .Specification: In the case of the Wireless E9-1-1 Phase 2 Stage 1 Technical Specification Recommendation (ESRE0047; approved by Telecom Decision CRTC 2009-328), an ESWG sub-working group convened and developed the specification. A similar specification development process is required to develop the ICLU specification. It is expected that the ICLU service will impact systems and processes for PSAPs, 9-1-1 SPs and WSPs. Stakeholders must meet to analyze and write the specification that provides the desired functionality given the existing 9-1-1 and telecommunication infrastructure in the Canadian environment. The NENA 04-005 ALI Query Service (AQS) document may form a basis of the specification in relation to the ALI-to-PSAP interface, but further technical details must be identified,

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[1] http://www.nena.org/standards/technical/cpe/ali-query-service

analyzed, resolved, and documented.   As part of that analysis, ICLU infrastructure prerequisites must be identified and documented. Further, as a result of this new specification, the existing ESRE0047 technical specification must be reviewed and refurbished as required to include ICLU functionality.

Upon completion and approval of the suggested ICLU functional specification report, the 9-1-1 Service Providers will need to assess current 9-1-1 network capabilities in consideration of the ICLU requirements.   9-1-1 SPs who currently provide 9-1-1 data to PSAPs via bidirectional links (such as IP) will need to develop protocols and standards to enable this feature. This will also require modifications to PSAP systems (such as CAD).   Furthermore, changes to the WSP interconnection specification will be required to support ICLU. Currently, TELUS and Bell Aliant offer IP connectivity to some PSAPs however, those infrastructures would need to be reassessed to ensure they meet the requirements set forth by the ICLU specification.   Given the existing infrastructure, 9-1-1 SPs will require a significant number of months from the approval date of the ICLU functional specification report to complete system assessments and develop the necessary protocols for WSPs and PSAPs. During this time, internal specifications and processes will also be developed to support this feature. With respect to 9-1-1 SPs who do not support the necessary bidirectional communication over the exiting 9-1-1 data links, a full 9-1-1 data network upgrade will be required. This will include a new set of interface protocols to support existing 9-1-1 data as well as ICLU over the new 9-1-1 data links. Also new internal data standards and development within the core 9-1-1 infrastructure will be required. This will also result in PSAP modifications to existing PSAP systems (such as CAD). 9-1-1 SPs who would require this major upgrade to support ICLU are MTS Allstream, Bell Canada, Sasktel, and Bell Aliant in the provinces of QC, ON.

2 .Procurement: WSPs, 9-1-1 Service Providers, and PSAPs must engage their infrastructure vendors to develop the ICLU functionality described in the above specifications.   The infrastructure vendors must implement the functionality described in the specifications through software development. The ICLU functionality may require specific hardware deployments.   The minimum time interval for this activity would involve software development and deployment, where the longer time interval would involve a RFP/RFQ and budgeting process with vendor selection and vendor development. The procurement interval would take place after specifications development has been completed. The ICLU stakeholders will know after procurement when they would be ready for deployment.

For 9-1-1 SPs who currently support the necessary bidirectional 9-1-1 data links, hardware procurement may not be require since the links are already in place however, those infrastructures would need to be reassessed to ensure they meet the requirements set forth by the ICLU specification which could

potentially necessitate hardware/software upgrades. For 9-1-1 SP who do not currently support the necessary bidirectional data links, procurement will include RFI/RFP process for equipment selection, testing and standardization including but not limited to new routers, IP data links (in many cases redundant) at the PSAP, as well as internal network facilities and equipment to aggregate and interconnect these IP 9-1-1 data links. Also included in this process is the architectural design of the new network and the establishment of the processes to support its provision, maintenance and support. It is estimated that the procurement phase will likely be 12 months.

3. Deployment: Deployment would occur once all hardware and software prerequisites are available in all segments of the 9-1-1 call flow (i.e. within the WSP, 9-1-1 Service Provider, and PSAP). To schedule deployment within regions of Canada that currently support the bidirectional 9-1-1 data link requirements in order to provide ICLU the ESWG could convene to set a schedule in a fashion similar to that contained in ESRE0048a, Rollout Schedule for Wireless Phase II Stage 1 E9-1-1 Implementation, which was approved by the Commission in Telecom Decision CRTC 2009-328. To address deployment within regions of Canada that do not currently support the bidirectional 9-1-1 data link requirements in order to provide ICLU, the ESWG could convene to establish a request-driven process similar to that for requesting LNP or WNP rollout, as documented in CISC reports RORE03B and NTRE042.

Deployment would occur once all hardware and software prerequisites are available in all segments of the 9-1-1 call flow (i.e. within the WSP, 9-1-1 Service Provider, and PSAP). For 9-1-1 SPs that currently have IP capabilities to the PSAPs and need to adjust their network to accommodate the ICLU requirements, a deployment cycle of 6 months is envisioned. For 9-1-1 SPs requiring a full 9-1-1 data system upgrade 12 months for deployment and testing of the new 9-1-1 data links is envisioned. As a result of this upgrade, PSAPs will be required to cutover to the new network. This may require additional equipment at some PSAPs as well as software/system modifications. The rate at which PSAPs migrate to the new data network is unknown and entirely up to the PSAPs. Given past experience, it is likely that full migration of all 9-1-1 PSAPs to the new data network will require several years, although major 9-1-1 centres such as Primary PSAPs will likely all be migrated within 12 months. Smaller PSAPs who cannot immediately transition to the new 9-1-1 data network may take longer.

5. Timelines

Considering the above, and the ESWG work plan, here are the proposed timelines:

a) Feb 2010 - ICLU process begins.

b) August 2010 - ICLU Technical specifications and Service Framework completed at CISC ESWG and submitted to the CRTC.

c) September 2010 – For ILECs and WSPs that require a procurement process it will start upon approval from the CRTC in terms of the technical specifications and service framework.

d) September 2010 – For ILECs and WSPs that have this technology readily available, the deployment process will begin with a target timeline of six months.
Note: This is assuming there is not a significant impact in terms of the WSP MLP process.

e) March 2011 – Deployment completed for all WSPs and 9-1-1 SPs currently running the ALI-to-PSAP communications on IP links.

f) September 2011 - Deployment process can commence for ILECs and WSPs that required a procurement process.
Note: This is assuming there is not a significant impact in terms of the WSP MLP process.

g) September 2012 - Deployment completed for all WSPs and 9-1-1 SPs, including those who require a full network upgrade.

ESWG Recommendation

The ESWG recommends that the Manual "Pull" Method (now referred to as PSAP Initiated Request or PIR) as proposed in the Recommendations portion of Appendix "A" of ESCO0310 (attached) be developed and implemented in the manner and timelines proposed above.

6. Manual In-call Location Update (ICLU) Interim Solution

Industry proposed that PSAPs could continue the use of WSPs 24/7 emergency access numbers as an interim solution. These centres could be used to verbally obtain the required ICLU information.

PSAPs agreed this could be a useful interim solution that should be a mandated support service for all WSPs. Further, in order to be most beneficial we would recommend that all these centres use the same common best practices across the Country as follows:

a. On-duty personnel trained to understand and facilitate the request for emergency ICLU information in a timely manner.

b. Common communications standards – provision of latitude, longitude coordinates in standard format, and street name(s) / direction of travel (where available).

Analysis

Some WSPs will require further development work to be involved in this Interim Solution.

Sasktel will participate in the Industry proposed interim solution that PSAPs contact the WSPs 24/7 emergency access numbers and verbally obtain ICLU information with the limitation that the quality of the ICLU information is limited by the information provided by SaskTel's lat/long location service provider.

MTS and TBaytel are still determining the scope of effort required to participate in this interim solution.

MTS has indicated that, for Wireless Phase II, Stage I requirements, MTS will be providing X,Y location requests based on implementation of a location architecture consistent with the previous ESWG recommendations. For a WSP to provide an interim solution as currently being suggested, a commercial location solution will be required to allow WSP Operators to locate the device within their network without having the caller dial 911. MTS currently does not support commercial location services similar to other larger WSPs and does not have the resources available at this time to investigate the recommendation further.

ESWG Recommendations

The ESWG recommends that in the interim, the WSP 24/7 Emergency Support Centre when necessary, be used to provide ICLU to the PSAPs and WSPs implement this capability as described above by October 5, 2009.

The ESWG recommends that MTS and TBaytel report back to ESWG and the CRTC with the results of their investigations by September 30, 2009.

7. Conclusion

The PSAPs appreciate the considered thinking and proposal from the WSPs and ILECs for the interim manual ICLU short-term solution followed by a phased integrated PSAP Initiated Request ICLU method for the permanent solution. The ESWG notes that some PSAP regions of the Country already have XML capable 9-1-1 ALI systems in place, (i.e. Nova Scotia, PEI; with New Brunswick soon to follow). The ESWG recommends that the implementation of the proposed PSAP initiation Request solution be deployed in those areas first and then migrated nationally to other areas as the Provincial Platforms become XML capable. This would provide a coordinated approach for both ILECs and PSAP upgrades as needed.

8. ESWG Recommendations

The ESWG recommends that the Manual "Pull" Method (now referred to as PSAP Initiated Request; PIR) as proposed in the Recommendations portion of Appendix "A" of ESCO0310 (attached) of this document be developed as described above and implemented in the timelines as proposed in Section Five, above.

The ESWG recommends that the Interim WSP 24/7 Emergency Access solution as detailed above be formalized by October 5, 2009. MTS and TBayTel, require further time to investigate this capability and will report their findings to the ESWG and CRTC at a later date.

End of Document

APPENDIX "A"

CONTRIBUTION:	ESCO0310
DATE:	May 27, 2009
WORKING GROUP:	Emergency Services Working Group – TIF 59
TITLE:	Wireless Phase II E9-1-1 In-call Location Update
ISSUES ADDRESSED:	This collective contribution for consideration at CISC ESWG represents the views, positions and recommendations of TELUS ILEC, TELUS Mobility, Bell Canada ILEC and Bell Mobility in regard to In-Call Location Updates for wireless 9-1-1 calls as a Stage 2 deliverable.
SOURCE:	Dragos Ghita, Ariel Topasso, Rob Sired – TELUS Technology Strategy Guy Caron, ENP – Bell Canada Fadi Dabliz, ENP – Bell Canada Francis Fernandes – Bell Mobility
DISTRIBUTION:	TIF 59 participants, ESWG Interested Parties
REFERENCES:	ESWG Recommendation The ESWG recommends that the ESWG investigate the ability to provide mid-call location updates (Rebids) for inclusion in a future deployment such as stage 2.
FILE NAME:	ESCO0310.doc
NOTICE:	This contribution is collectively submitted by: TELUS and Bell Canada (the Companies) to assist the Emergency Services Working Group as a basis for discussion. This contribution does not constitute a binding proposal by these companies and can be withdrawn or revised at any time.

A. INTRODUCTION

The October 31, 2008 ESWG report, "Technical and Operational Requirements of Wireless Phase II E9-1-1 Implementation" recommended, "*that the ESWG investigate the ability to provide mid-call location updates (Rebids) for inclusion in a future deployment such as stage 2*". Telecom Regulatory Policy CRTC 2009-40, released on February 2, 2009, requests the CISC to file a report on its findings to the Commission by August 2, 2009. Task Identification Form (TIF) ESTF0059 has been established to identify and develop technical solutions that would allow for the In-call Location functionality.

B. BACKGROUND

The Companies understand and acknowledge that the "In-Call Location Update" (ICLU) feature is essential for the PSAPs and agree that its design and implementation should be carefully thought through to minimize risk of impact and stress to the existing E9-1-1 infrastructure, including Phase II Stage 1, while providing the necessary tools for the call takers to adequately perform their duties.

In ESCO0308 submitted on May 14, 2009, the PSAPs have defined ICLU as "*the ability to request multiple positions via the network in those cases where the single X,Y coordinate response is not sufficient*".

The Companies further define ICLU as query and response functions where the query can be manual or automated. The Companies note that the query function can be hosted at different nodes in the Network and take different shapes and forms.

Non-integrated versus integrated approaches

During the course of the discussions at CISC ESWG, several potential solutions where mentioned. The solutions could be categorized in two general approaches from a PSAP CPE perspective.

Non-integrated with PSAP CPE

The PSAP CPE non-integrated approach can be defined as when at least the response function is performed outside of the regular ALI data path.

An example of such would be the use of the WSPs' 24/7 emergency access numbers where ICLU response is provided verbally to the PSAP representative. With this type of solution, the PSAP CPE may not be able to associate the updated location with a call in progress at the call taker position, presumably relying on the representative to make that association.

While this solution has a lot of shortcomings, it has the apparent benefit of being relatively easy to introduce for a WSP within a reduced timeframe. Considering the importance of the feature for the PSAPs, the earliest availability is perceived as a tangible benefit.

PSAP CPE integrated

The PSAP CPE integrated approach can be defined as when at least the response function is performed through the regular ALI data path.

An example of such would be the U.S. PSAP operating in "ALI Pull mode" with a special key for "re-bid". With this type of solution, the location updates are fully integrated with the PSAP CPE which can in turn associate them with a specific call event.

There are two distinctive ways to provide ICLU to a PSAP in a CPE integrated fashion:

1. Automatic Push method

The query function is hosted at the ALI without the involvement of the PSAP CPE. The ALI would be requesting periodical location updates to the WSP's mobile location determination platform for every E9-1-1 Phase II active call and be pushing the received location information to the PSAP via the existing ALI-to-PSAP interface.

The Automatic Push method leverages the Wireless Phase II Stage 1 mode of operation for the delivery of location updates and inherits from the intrinsic features of the ALI Push mode for privacy protection and safeguards against abuse. It has the benefit of minimizing the impact on the PSAPs and ALI systems however it has several major drawbacks on the WSP side:

- Negative effects on the terminal devices (mobile phones) of the wireless E9-1-1 callers
  - Location functionality has a significant impact on the battery life of the mobile devices (especially when high-accuracy GPS is used – i.e., for all devices that support GPS[2]); forcing the device to perform the required measurements periodically through the duration of the 9-1-1 call (as required by the Push Method). This behaviour will affect the life of the battery and in certain cases the quality of the voice communication which would be detrimental to the E9-1-1 Service;

- Would cause a steep increase in location-related workload in the WSP infrastructure. This would have several undesired consequences:
  - Unnecessary stress the WSP infrastructure including the radio access network, MSCs (mobile switching centres), and the messaging infrastructure (as used for location signalling);
  - Significantly decrease the overall E9-1-1 Phase II system capacity, especially during special crisis situations like natural disasters when many simultaneous E9-1-1 calls are active;

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[2] This is because the WSP will always attempt to use the highest accuracy method available in each scenario; when a device supports GPS, GPS will always be the first location method attempted.

While initially submitted as a potential solution, further investigations have lead to believe that the benefits of the solution are greatly outweighed by the negative impacts it would introduce.

2. Manual Pull method

The query function is hosted at the PSAP CPE enabling the PSAP call taker to initiate ICLU only when required. The ALI would proxy the requests to the WSP's mobile location determination platform and would return the updated location information to the PSAP over the ALI data path. With this method, The ALI-to-PSAP interface and the ALI application must support inbound data communications. This may be achieved either by modifying existing outbound-only interfaces to become bi-directional or by implementing a brand new protocol.

The Pull method for ICLU is widely used in the U.S. due to the fact that their 9-1-1 infrastructures are by design working in ALI Pull mode. The Companies submit that the U.S. PSAPs may rely more on ICLU due to the fact that they don't get the first location update automatically as it is the case with the Wireless E9-1-1 Phase II Stage 1 solution in Canada.

The Companies note that NENA has recently developed an ALI-to-PSAP protocol ([NENA 04-005 – ALI Query Service](#)) supporting ICLU which can evolve in a Push ALI environment such as the ones currently in place in Canada. Without minimizing the impacts of introducing this new state-of-the-art protocol to the existing E9-1-1 Network infrastructures, the Companies submit that it could potentially become a candidate for evolving the current ALI-to-PSAP protocols.

C. RECOMMENDATIONS

The Companies understand that ICLU is a Stage 2 requirement, therefore the proposed solutions described below should be considered for exploration and rollout <u>after</u> the Stage 1 solution rollout has been completed, to avoid any disruptions and delays.

Recognizing the importance of the ICLU feature for the PSAPs, the Companies are of the view that the feature should be made available in the early stages of the Stage 2 implementation timeline. Considering the forklift upgrade a PSAP CPE integrated solution like NENA AQS might entail for some ESPs and PSAPs, the Companies recommend that the WSPs' 24/7 emergency access centres be equipped with ICLU capabilities for the sole benefit of the serving PSAPs. After Stage 1 deployment is completed, the Companies are willing to investigate the capabilities of this service, including but limited to operational framework, service levels, liability, privacy protection, etc...

The Companies recognize that Emergency Services Providers (ESPs) have implemented their own ALI-to-PSAP interfaces within their serving territories and are responsible for the evolution of their E9-1-1 infrastructures.

While the Companies acknowledge it is up to each ESP to select the best solution for their E9-1-1 infrastructure and specific PSAP configurations, the Companies submit that the NENA 04-005 AQS standard seems to constitute a good basis for the development of a long term PSAP CPE integrated solution supporting ICLU. The AQS protocol design has provisions to accommodate Canadian E9-1-1 basic ALI Push functionality for delivery of wireline/wireless Phase I E9-1-1 Customer Name and Address Information (CNAI). The Companies believe it would be a worthwhile exercise to explore in more details how it can be extended to accommodate the delivery in ALI Push mode of wireless E9-1-1 Phase II Stage 1 location information, while allowing the implementation of the recommended manual Pull mechanism for ICLU, enabling the PSAPs to trigger location updates when needed. The Companies believe that those core capabilities would somewhat minimize the impact of the ALI-to-PSAP protocol change on both the ALI and the PSAP sides, since both applications still send and receive the same information as they do today for wireline/wireless Phase 1 E9-1-1 CNAI and wireless Phase II Stage 1, assuming that both could potentially be extended to support Stage 2 ICLU.

It is also noted that those PSAPs that for any reason cannot upgrade to a more modern ALI-to-PSAP interface as AQS at Stage 2 Launch-Time and stay on the legacy unidirectional interface, could also have access to ICLU when necessary by calling the WSP 24/7 Call-centre and having the WSP call-centre operator manually trigger an ICLU on their behalf.

The Companies submit that an upgrade to AQS and Stage 2 ICLU would at least involve:

- Upgrading the ALI application to support ICLU signalling proxy functionality by:

  a) Implementing AQS (or similar XML-based interface as determined by the ESP Terminal-to-Network Interface document) towards the PSAPs. It is worth mentioning that for Stage 1 completion, the ALIs will have XML functionality in production as required by the ALI-to-MPC/GMLC (MLP 3.2) interface.
  b) Extending the MLP interface towards the WSPs to support ICLU signalling. The specifics of this should be discussed at CISC ESWG.

- Updating the PSAP application to support an AQS interface towards the ALI with specific ICLU trigger functionality over AQS.
- In some cases where legacy terminal equipment are still used, completely replace existing PSAP CPE;
- In most cases, upgrading the ALI-to-PSAP links to IP backhaul, (in some cases it is already present);
- Modifications to PSAP Standard Operations Procedures and call taker training.

Privacy protection and safeguards against abuse

Considering the similarities in nature between PSAP CPE integrated ICLU and the Reverse ALI functionality (a.k.a. Manual access to ALI DB[3]), the Companies are of the view that proper considerations should be given to privacy protection and safeguards against abuse in designing this new feature in both a service bureau model and PSAP CPE integrated approach. CRTC guidance should be sought on the matter.

Minimum interval for invoking ICLU in PSAP CPE integrated mode

The Companies submit that ESWG should discuss the minimum interval by which manual ICLU should be accepted. The recommended value for the minimum interval requires further study.

Conclusion

The Companies remain of the view that upgrading the existing E9-1-1 infrastructure to support ICLU in a PSAP CPE integrated fashion is a significant undertaking for both the PSAPs and the ESPs. However, the Companies are of the view that this new requirement alone is an important enough trigger to evolve the existing E9-1-1 infrastructure.

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[3] For references, see CRTC Telecom Decision 99-17 paragraphs 19 to 32.