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TCS Receives 13 U.S. Patents for Advancements in Mobile Location and GIS Mapping Technology

Key Location Services Described, Including Location Techniques While Roaming, Support for Multiple Location Servers and POI Geofencing Techniques

Note: Comtech Acquired TCS on 2/23/2016

ANNAPOLIS, MD, Nov 18, 2011 -- TeleCommunication Systems, Inc. (TCS) (NASDAQ: TSYS), a world leader in highly reliable and secure mobile communication technology, today announced that the U.S. Patent and Trademark Office has issued TCS 13 patents related to mobile location and geographic information systems (GIS) mapping technology:

- | Cellular Augmented Vehicle Alarm Notification Together With Location Services For Position" (U.S. Patent No. 7,825,780)

Many vehicles come equipped with anti-theft systems that emit a local alarm if a vehicle detects improper tampering. This patent describes methods that extend that alarm to other concerned parties via cellular transmission, including the owner of the vehicle, nearby building security, and local law enforcement.

- | User Plane Location Based Service Using Message Tunneling To Support Roaming" (U.S. Patent No. 7,890,102)
- | "Roaming Gateway Enabling Location Based Services (LBS) Roaming For User Plane In CDMA Networks Without Requiring Use of a Mobile Positioning Center (MPC)" (U.S. Patent No. 7,966,013)

Roaming provides one of the greatest challenges facing precise location technology. Because most network-based precise location techniques need information about the local cellular topology, but the privacy and authentication rules rely upon information in the home cellular network, many network-based location techniques will not work properly when roaming. These patents address these challenges using different approaches. One approach ensures that the information gets to the home network, and that network then initiates the appropriate location request. The other approach introduces a location gateway that serves as a network intermediary, much in the same way that Short Message Service (SMS) technology introduced a gateway to facilitate intercarrier messaging techniques (another patent which TCS received previously and has monetized directly). Combined, these patents offer solutions to the precise location challenges facing the industry today.

- | "Mobile Activity Status Tracker (MAST) (Network Perspective)" (U.S. Patent No. 7,894,825)
- | "Wireless Chat Automatic Status Signaling" (U.S. Patent No. 7,894,797)
- | "Location Derived Presence Information" (U.S. Patent No. 8,032,112)

These three patents describe methods that passively monitor the status of a subscriber's mobile device by copying relevant signaling messages and forwarding them to a status tracker. By monitoring the exchanged messages, information concerning the subscriber's location can be derived, and the appropriate presence state can be conveyed to other systems, services and applications that need this information to perform their relevant functions.

- | "Wireless Network Location-Based Reference Information" (U.S. Patent No. 7,899,473)
- | "Wireless Network Location-Based Reference Information" (U.S. Patent No. 8,032,166)

These two patents describe methods that create a location-based 4-1-1 information service. By appending a suffix that identifies a particular information category, nearby retail locations related to that category can be returned to the user via SMS. For example, a caller could dial 4-1-1-A-T-M, be located in real-time and receive one or more SMS

messages identifying the location of the nearest ATMs with respect to the caller's current location. This approach capitalizes upon the strengths of TCS' understanding of SMS, location and GIS technologies.

| "Personal Location Code" (U.S. Patent No. 7,957,751)

This patent describes methods of privacy management that involve the creation of a Personal Location Code (PLC) for a given subscriber. These codes work like specialized passwords, allowing the user of the code to obtain location information about the subscriber based upon pre-defined allowances that are associated with the PLC. For example, a person might give one PLC to his/her child, one PLC to a spouse, and a third PLC for an employer. Each PLC would allow applications to access the location of the subscriber within certain restrictions. In the previous example, a family location service used by the child and spouse could receive location at any time, but the subscriber would be notified if the child's PLC is used; and a workforce location service used by the employer would only return a location fix during normal business hours, as restricted by the employer's PLC.

| "Cellular Augmented Radar/Laser Detection Using Local Mobile Network Within Cellular Network (PCT is 20-630)" (U.S. Patent No. 7,899,450)

| "Cellular Augmented Radar/Laser Detector" (U.S. Patent No. 7,965,222)

These patents describe methods by which radar and laser detection capabilities of a mobile device could be shared with other nearby subscribers of the service using the cellular network for determining the relevant locations and conveying the information.

| "Secure Location Session Manager" (U.S. Patent No. 7,974,235)

As the number of location transactions increase within cellular networks, a wireless operator will be compelled to deploy additional location platforms. This situation clearly occurred with Short Message Service Centers (SMSCs) as SMS began its unrestrained march to trillions of yearly transactions, and TCS anticipates that location platforms will follow similar transaction patterns. Since each location fix involves multiple location-based message transactions, it is imperative that all messages associated with any given location session be delivered to the same platform responsible for that session. Going from one to many location platforms within a specific cellular network creates session management challenges and could restrict the network topology and create network inefficiencies. This patent describes methods that define secure pathways between location platforms in order to facilitate efficient session management. This intelligent routing approach is currently provided by TCS location solutions and allows geo-redundant, active-active and load-sharing location platform configurations otherwise not possible.

| "Method and System for Identifying and Defining Geofences" (U.S. Patent No. 8,019,532)

The latest versions of location-based technology standards have defined how geofences can be used by mobile devices to define certain key services. For example, a Family Locator service can define a geofence around a house or school, and the parent can receive notification that a child using the service has either entered or left such a geofenced area. Up to now, these geofences are typically defined by either polygons or circles of a given radius from a selected point on a map. In reality, though, the boundaries of a house or school are either unknown to the user or are more complex than the simple geofencing tools provided. This patent describes methods by which a geofence is established around a point of interest using the mapping boundaries already associated with that location. Thus, by simply selecting the home or school in the previous example, an application utilizing the methods described by this patent would create geofences around those locations that match the boundaries already defined by the geospatial data associated with those points of interest. This technique greatly improves the value of geofences while simplifying the entry methods employed by the users of the applications.

"Once again, TCS is being recognized as an innovator in mobile location and mapping technologies," said Drew Morin, TCS senior vice president and chief technology officer. "These new patents clearly demonstrate our breadth of expertise in location and GIS and underscore our commitment to innovation. We use many of these patents in our products, and we welcome the opportunity to commercialize this technology with partners looking

to expand their business in these areas."

This announcement brings the total number of issued patents worldwide to more than 186, with more than 330 patent applications pending. TCS' growing patent portfolio allows meaningful partnerships with other industry-leading companies to be built through direct licensing, cross licensing and joint venture agreements.

About TeleCommunication Systems, Inc.

TeleCommunication Systems, Inc. (TCS) (NASDAQ: TSYS) is a world leader in highly reliable and secure mobile communication technology. TCS infrastructure forms the foundation for market leading solutions in E9-1-1, text messaging, commercial location and deployable wireless communications. TCS is at the forefront of new mobile cloud computing services providing wireless applications for navigation, hyper-local search, asset tracking, social applications and telematics. Millions of consumers around the world use TCS wireless apps as a fundamental part of their daily lives. Government agencies utilize TCS' cyber security expertise, professional services, and highly secure deployable satellite solutions for mission-critical communications. Headquartered in Annapolis, MD, TCS maintains technical, service and sales offices around the world. To learn more about emerging and innovative wireless technologies, visit www.telecomsys.com.

Except for the historical information contained herein, this news release contains forward-looking statements as defined within Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities and Exchange Act of 1934, as amended. These statements are subject to risks and uncertainties and are based upon TCS' current expectations and assumptions that if incorrect would cause actual results to differ materially from those anticipated. Risks include without limitation those detailed from time to time in the Company's SEC reports, including the reports on Form 10-K for the year ended December 31, 2010, and on Form 10-Q for the quarter ended September 30, 2011.

Existing and prospective investors are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof. The Company undertakes no obligation to update or revise the information in this press release, whether as a result of new information, future events or circumstances, or otherwise.

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