

Data Sheet

LS/CA – Living Systems® Connection Agent for Operators



One click to get connected –
and stay connected.

Product features

- One-click connect
- Profile-based automatic access technology selection
- Seamless handover for session continuity between 2G, 3G, 3.5G and WLAN networks
- Tight VPN integration
- Centralized management and configuration
- Customizable skins, functionalities, add-ons

Product benefits

- Increased returns on network technology investments
- Increased revenues from IP-based data services
- Effective competitive differentiator with highly mobile enterprise customers
- Improved coverage experience
- Lower support and maintenance costs compared to other solutions due to self-management capabilities

From the experts in autonomic communications, *Whitestein Technologies'* award-winning¹ *LS/CA* client solution unlocks next-generation seamless mobility for operators. Delivering superior handover capabilities, security and self-management features, *LS/CA* helps increase data services ARPU, network ROI and customer loyalty, while keeping support and maintenance costs down.

How LS/CA Benefits Operators

Operators want to play a crucial role in an ad-hoc world where customers dynamically connect to numerous networks at work, at home, and on the move. Likewise, they also want to capture the end-users' demand for data services that are increasingly IP-based and thus virtually network agnostic.

A solution with *Living Systems® Connection Agent* enables operators to achieve both. It allows them to combine the extensive, but heterogeneous coverage of their diverse networks and to offer the users and their applications unrestricted, seamless mobility between them. With *LS/CA*, *Whitestein Technologies* helps its customers to get higher returns on network investments, to grow revenues through increased data service usage, to differentiate their coverage and service offering in competitive markets, and to ultimately foster the loyalty of a highly mobile and affluent customer base.

Major Features

Next-generation capabilities for autonomic self-management

Primed for the long term, *LS/CA* is enabled already today with autonomic self-management properties that are postulated for next-generation network components. Particularly, it *self-configures* to changing network and working environments. Policy-controls for different zones define the features offered, e.g., connection types, VPNs etc. The solution *self-optimizes* the connection choice based on operator or user policies. It *self-heals* by recovering from failures with minimal impact on user experience and by repairing or circumventing anomalous behavior. Lost connections are reestablished or seamlessly transitioned to an alternative type. *LS/CA self-protects* by detecting unauthorized alterations to operator policies and freezing operation while restoring with securely obtained originals.

Seamless handover and session continuity

As TCP/IP was not designed for the volatility of wireless networks, the operation of connection-oriented applications and services can become a very unsteady experience. *LS/CA* effectively eliminates this hazard and ensures that the network interface on the client maintains its IP address during the entire session, spanning network interruptions. The upper levels of the IP stack (applications and services) are completely shielded from the interruptions and changes at network level. Specifically, *LS/CA* offers the following features:

- Mobile IP* standard compliance, interoperable with most network equipment
- No need for deployment of Foreign Agents
- Support for NAT-traversal and dynamic IP address assignment
- Interoperability with third-party VPN clients

1. Deployed for Swisscom Mobile under the name Unlimited Data Manager, the software received the 2005 GSM Association Award for best mobile enterprise application.

Automatic access technology selection

Manual or semi-automatic selection and switching of network technologies would require know-how and repeat intervention from the user in dynamic environments. *LS/CA* autonomically self-manages these aspects in the background, based on pre-set operator and/or user preferences and dynamic context.

One-click connect and easy-to-use dashboard

With *LS/CA*, the end-user has to click one button to get connected and stay connected. The client does not overwhelm the user with device configuration and connection definition screens. A dashboard-style window continuously displays the most important functions and information. Depending on the operations performed, the window is expanded automatically to show additional information and options. When not in use, the dashboard is minimized to a tray icon which offers direct access to relevant functions through a context menu. *LS/CA* also eliminates the need for the user to deal with OS-level configuration screens for devices and software. Rather, the solution handles, among others, profile definition, access technology and service provider selection, VPN definition(s), e-mail and web browser definition, preferences for automatic connection and reconnection, and automatic checks for client software updates.

Feature-rich user interface and full customizability

For the power user, the *LS/CA* user interface can display all relevant information, such as available WLAN access points, activity and volume statistics, or hard- and software diagnostics. The appearance of *LS/CA* can be adapted with custom skins. Functionality can be hidden or additional features added to suit the operator's demands (an example is the already existing optional SMS module, complete with contact management and Microsoft® Outlook® integration).

Easy enterprise deployment

LS/CA integrates well with existing enterprise software deployment systems. This allows the system administrator of an enterprise customer to centrally set and maintain the configuration of distributed clients. On the clients, these configuration settings are protected against unauthorized modifications.

Tight integration with VPN clients

Recognizing the importance of VPN for business users, *LS/CA* seamlessly integrates a constantly growing number of leading VPN clients out of the box and many others with minimal configuration effort. Once the VPN connection is configured, the user can establish a secure connection at any time with a single click.

Licensing, support and maintenance

Whitestein Technologies is proud to offer a wide variety of flexible licensing structures, support options and maintenance contracts to suit its customers' needs. Please contact us for further information.

Complementary products and services

The *Living Systems® Connection Agent Online Software Platform (LS/CA-OSP)* manages the update information for the different *LS/CA* releases, drivers, and firmware images and offers flexible ways of gathering user behavior information.

Whitestein Technologies offers a full range of highly-specialized software customization and integration services through its own near-shore development center. Our expertise bases on extensive project experience and widely accepted best practices in software engineering. Operator-specific methodologies and processes can also be applied.

Through the use of systematic engineering in the well-structured context of an iterative development methodology and process, and the use of modeling languages such as Unified Modeling Language (UML), high flexibility toward the customer can be achieved, while keeping within agreed-upon cost and time budgets.

Technical specifications

- ❑ Supported platforms: Microsoft® Windows® XP, Vista™, 2000
- ❑ Supported network technologies: WLAN (802.11a,b,g,n); HSDPA, UMTS, EDGE, GPRS; Ethernet; prepared for WiMAX
- ❑ WLAN security: WEP, WPA, WPA2 (IEEE 802.11i); EAP-LEAP, -PEAP, -TLS, -FAST (IEEE 802.1x) for public networks; EAP-SIM, WISPr, HTTP form-based for public hotspots
- ❑ Application integration: COM API for Mobile IP SDK; command line API for overall functionality; other integration possibilities by request
- ❑ VPN support: Nortel® VPN; Cisco® VPN; Checkpoint® SecuRemote®; Microsoft® L2TP and PPTP; F5 Networks® FirePass®; AT&T® VPN; other clients being added

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About Whitestein Technologies

Whitestein Technologies is a leading innovator in the area of software agent technologies and autonomic computing & communications. *Whitestein Technologies'* product offering includes advanced solutions for the telecom, logistics, financial services, and business process management domains, as well as a comprehensive middleware for the development and operation of autonomous systems. *Whitestein Technologies'* customers and partners include leading global enterprises in the above markets, as well as technology companies, system integrators, universities, and other research institutions.

Whitestein Technologies was founded in 1999 and is privately held. The firm is headquartered in Zug (Switzerland) with offices in Zürich (Switzerland), Donaueschingen (Germany), Bratislava (Slovakia) and Sophia-Antipolis (France).

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