Salutation Architectures and the newly defined service discovery protocols from Microsoft® and Sun®

How does the Salutation Architecture stack up

A Salutation White Paper

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Salutation and the newly arrived service discovery protocols

Amid the recent press excitement regarding service discovery concepts and requirements, Jini has gone public, a glimpse of Universal Plug and Play has been offered, the Simple Service Discovery Protocol has surfaced…. ***and the number of available Salutation-enabled products has increased.*** How do these service discovery protocols compare? The following is a brief description of the alternatives with a comparison to Salutation.

Sun's Jini

Jini technology provides simple mechanisms which enable devices to plug together to form an impromptu community -- a community put together without any planning, installation, or human intervention. Each device provides services that other devices in the community may use.

The Java programming language is the key to making Jini technology work. In a network employing Jini technology, devices are tied together using Java Remote Method Invocation (RMI). The discovery and join protocols, as well as the lookup service, depend on the ability to move Java objects, including their code, between Java virtual machines. For Jini connection technology to succeed, the underlying protocols and infrastructure must become pervasive.

Sun will not go unimpeded with Jini. While publicly ignoring both Sun initiatives by claiming Java is just another programming language, Microsoft has unilaterally enhanced Java in its implementation of Internet Explorer. For a real-time demonstration of these differences, view http://www.microsoft.com/presspass/press/1999/Jan99/PLUGNPlay+QS.htm from Netscape's Navigator and Microsoft's Internet Explorer.

Microsoft's UPnP and SSDP

Universal Plug and Play (UPnP) is an open standard technology for transparently connecting appliances, PCs, and services by extending Plug and Play to support networks and peer-to-peer discovery and configuration**.** UPnP will be implemented for all Microsoft® Windows® platforms, for PCs and devices running under the Windows 98, Windows 2000, and Windows CE operating systems. Microsoft has made available UPnP specifications, an implementation guide, and sample source code at WinHEC 99. No licensing fee will be required for implementing solutions using the sample code Microsoft provides.

According to Microsoft, the Simple Service Discovery Protocol (SSDP), a subset of UPnP, provides a mechanism where by network clients, with little or no static configuration, can discover desired network services. SSDP uses HTTP over multicast and unicast UDP to provide two functions: OPTIONS and ANNOUNCE.

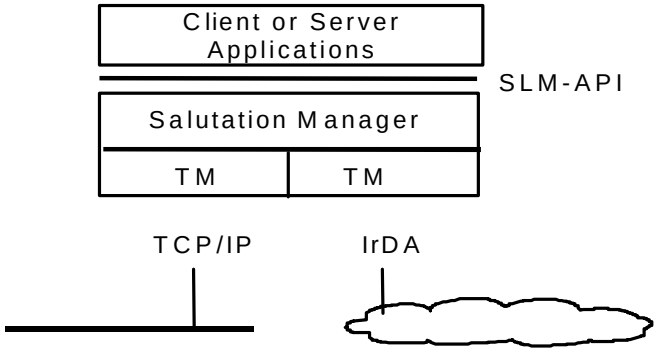
- An OPTION is used to determine if a desired network service exists on the network.
- An ANNOUNCE is used by network services to announce their existence.

SSDP performs only discovery. It leaves any additional service description and/or negotiation to a higher layer service-specific protocol.

SSDP is clearly defined for an IP environment, requiring both UDP multicast/unicast and HTTP message syntax. Microsoft's vision for SSDP is small peer-to-peer TCP/IP networks, such as home or small office networks.

How does Salutation Architecture compare with Jini, UPnP and SSDP Specifications?

The Salutation Consortium's architecture starts from the position that network architectures should be free of vendor-imposed limitations. Salutation is not limited to nor does it have a prerequisite for the Java, UDP or HTTP. It is platform, OS, and network independent. Salutation Architecture does not assume a single pervasive infrastructure. In fact, one of Salutation's strengths is its ability to support multiple infrastructures through a single implementation.



While Jini and SSDP continue to invent themselves, Salutation implementations are already in the market place, including developer toolkits, MFPs, Fax devices, and Windows platform enablers.

It must be stressed that Salutation is an Open Architecture. It is owned by a dedicated group of leading IT companies who wish to provide common service discovery and session management enabling them to focus on bringing rich functionality to their customers.

Summary of Salutation Value

- The Salutation protocols are nonproprietary. You can get the specification from the Web. Your company can participate in further specification development.
- Unlike the reports about Jini, there are no royalty charges associated with implementation of Salutation.

- Jini has a dependence on Java to enable all its promise. Salutation can be implemented in Java, or any other language (Windows 95/98/NT and Windriver's Tornado are available, plans are in the works for Windows CE and Palm OS).
- Jini and UPnP/SSDP are targeted for IP networks; Salutation can operate in any network, including IP, IR and, in the future, wireless.
- Salutation's light footprint makes it a candidate for small devices. Jini has not made inroads here. UPnP/SSDP is still a question in this space.
- To meet full potential, Jini and UPnP/SSDP require a directory of sorts. Salutation is comfortable in either directory centric or point-to-point applications.
- While Jini and UPnP/SSDP are designing the details of their architectures and defining roll-out plans, Salutation-enabled products are quietly shipping.
- Implementations of Jini and UPnP/SSDP are still far off. Salutation is proven in both devices and services, with Software Development Toolkits available from multiple sources.
- Jini does not eliminate the need for device drivers; it merely provides a mechanism for locating Java-based device drivers. IBM NuOffice, an existing Salutation-enablement for Lotus Notes, available in the US and Japan, also provides a mechanism to locate and load device drivers, but without the Java prerequisite.

Let's Get Real!

While ***proprietary*** service discovery protocols continue to spring up and attempt to get off the drawing board, the protocol and operating system independent Salutation Architecture is shipping!

While supporters of the new service discovery protocols argue in a game of "mine's better than yours", the members of the Salutation Consortium have been moving technology to market for two years.

While the new arrivals argue over the value of Java-based versus IP-based implementations, Salutation is technology independent and embraces IP, IR and wireless protocols.

And while the new arrivals talk in the future tense about tools and products, Salutation's members produce a full set of Salutation toolkits, Windows desktop enablers, and enabled devices and services.

Salutation is shipping while others are still thinking!