

CORBA vs. SOAP

◆ Protocol Transports

CORBA	SOAP
<p>1. CORBA2 implementations use Internet Inter-ORB Protocol (IIOP), which is GIOP (General Inter-ORB Protocol) over the TCP/IP.</p> <p>2. An additional protocol, called the DCE CIOP (DCE Common Inter-ORB Protocol) is also supported by CORBA2.</p>	<p>1. HTTP is defined as the protocol for transmitting method calls.</p> <p>2. Other transports such as SMTP are not inconceivable, which requires the SOAP method calls to be unidirectional.</p>

CORBA vs. SOAP

◆ Interoperability

CORBA	SOAP
<p>1. CORBA 1.0 has problem with being unable to build a system of interoperable ORBs implemented by different vendors.</p> <p>2. CORBA 2.0 resolves the problem by defining a single wire-format to guarantee that two separately developed CORBA implementation work together.</p>	<p>Being based on HTTP protocol and XML format, interoperability is easy between different SOAP-enabled computer system.</p>

7

System

application

int

XML

< > <> <

strings

Xsi

SOAP

CORBA vs. SOAP

◆ Object Identity and Lifetime

CORBA	SOAP
<ol style="list-style-type: none">1. A particular instance of a CORBA object is identified by an <u>object reference</u>.2. CORBA is used for transparent communication between application objects.	<ol style="list-style-type: none">1. SOAP doesn't mandate any object identity other than an URL endpoint.2. Life time of SOAP objects on the server becomes an issue if the server is maintaining state.3. The server needs to timeout the object to reclaim its resource.

CORBA vs. SOAP

◆ Scalability

CORBA	SOAP
<ol style="list-style-type: none">1. CORBA features a simple mechanism to use stateless ORB requests.2. The choice of stateless or stateful is decided by the system designer.	<ol style="list-style-type: none">1. The HTTP protocol is stateless.2. SOAP server can maintain state for the client using cookies, or special object identities within the SOAP calls.3. SOAP is going to have a session mechanism to enable transactional requests.

CORBA vs. SOAP

◆ Transmission Data Format

CORBA	SOAP
<ol style="list-style-type: none"> 1. CORBA use binary encoding for data transmission. 2. It assumes that both the sender and the receiver have full knowledge of the message context and does not encode any meta-information. 3. This approach results in good performance, but makes it hard for intermediaries to process messages. 	<ol style="list-style-type: none"> 1. SOAP uses XML to encode messages, and is easy to process messages at every step of the invocation process. 2. The ease of debugging SOAP messages leads to a quick convergence of the various SOAP implementations.

→ optimisation

ORB - optimize type engine
IDC (marshalling engine)
SHS

- Parsing
- Large size of documents

SOAP
very bad performance

CORBA vs. SOAP

◆ Cross-platform Support

CORBA	SOAP
<ol style="list-style-type: none">1. CORBA1.0 gave no implementation for ORBs, and then was difficult to work with firewalls.2. CORBA2.0 introduced the Inter-ORB Protocol (IIOP) which runs over TCP/IP.3. CORBA extends itself to include the Web	<p>Being based on Internet specifications, SOAP can plug into existing Web environments; thus it is supported on any computer platform.</p>