[MS-FSL]:
Logging Protocol Specification

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Revision Summary

Date	Revision History	Revision Class	Comments
11/06/2009	0.1	Major	Initial Availability
02/19/2010	1.0	Major	Updated and revised the technical content
03/31/2010	1.01	Editorial	Revised and edited the technical content
04/30/2010	1.02	Editorial	Revised and edited the technical content
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06/29/2010	1.04	Editorial	Changed language and formatting in the technical content.
07/23/2010	1.04	No change	No changes to the meaning, language, or formatting of the technical content.
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Table of Contents

1 Introduction

This document specifies the Logging Protocol. This protocol enables a protocol client to send log messages to a protocol server.

1.1 Glossary

The following terms are defined in [MS-GLOS]:

Hypertext Transfer Protocol (HTTP)

The following terms are defined in [MS-OFCGLOS]:

content collection
event
SOAP (Simple Object Access Protocol)
SOAP action
SOAP body
SOAP fault
URL (Uniform Resource Locator)
Web site
WSDL (Web Services Description Language)
WSDL message
WSDL operation
XML namespace
XML Schema

The following terms are specific to this document:

MAY, SHOULD, MUST, SHOULD NOT, MUST NOT: These terms (in all caps) are used as described in [RFC2119]. All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

1.2 References

1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact dochelp@microsoft.com. We will assist you in finding the relevant information. Please check the archive site, http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C9624, as an additional source.

[MS-WSSEC] Microsoft Corporation, "Web Services: Security Policy Assertions Format", July 2009.

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997, http://www.ietf.org/rfc/rfc2119.txt

[RFC2616] Fielding, R., Gettys, J., Mogul, J., et al., "Hypertext Transfer Protocol -- HTTP/1.1", RFC 2616, June 1999, http://www.ietf.org/rfc/rfc2616.txt

[SOAP1.2/1] Gudgin, M., Hadley, M., Mendelsohn, N., Moreau, J., and Nielsen, H.F., "SOAP Version 1.2 Part 1: Messaging Framework", W3C Recommendation, June 2003, http://www.w3.org/TR/2003/REC-soap12-part1-20030624

[SOAP1.2/2] Gudgin, M., Hadley, M., Mendelsohn, N., Moreau, J., and Nielsen, H.F., "SOAP Version 1.2 Part 2: Adjuncts", W3C Recommendation, June 2003, http://www.w3.org/TR/2003/REC-soap12-part2-20030624

[WSA1.0 Core] Gudgin, M., Ed., Hadley, M., Ed., and Rogers, Tony, Ed., "Web Services Addressing 1.0 - Core", W3C Recommendation 9 May 2006, http://www.w3.org/TR/2006/REC-ws-addr-core-20060509/ws-addr-core.pdf

[WSA1.0 SOAP Binding] Gudgin, M., Ed., Hadley, M., Ed., and Rogers, T., Ed., "Web Services Addressing 1.0 - SOAP Binding", W3C Recommendation 9 May 2006, http://www.w3.org/TR/2006/REC-ws-addr-soap-20060509/ws-addr-soap.pdf

[WSA1.0] World Wide Web Consortium, "Web Services Addressing 1.0 - WSDL Binding", 29 May 2006, http://www.w3.org/TR/ws-addr-wsdl/

[WSDL] Christensen, E., Curbera, F., Meredith, G., and Weerawarana, S., "Web Services Description Language (WSDL) 1.1", W3C Note, March 2001, http://www.w3.org/TR/2001/NOTE-wsdl-20010315

[WSP1.5] W3C, "Web Services Policy 1.5 - Framework", 04 September 2007, http://www.w3.org/TR/ws-policy/ws-policy-framework.pdf

[WSSC1.3] Lawrence, K., Kaler, C., Nadalin, A., et al., "WS-SecureConversation 1.3", March 2007, http://docs.oasis-open.org/ws-sx/ws-secureconversation/200512/ws-secureconversation-1.3-os.html

[WSSE 1.0] Nadalin, A., Kaler, C., Hallam-Baker, P., and Monzillo, R., Eds., "Web Services Security: SOAP Message Security 1.0 (WS-Security 2004)", OASIS Standard 200401, March 2004, http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-soap-message-security-1.0.pdf

[WSSP1.2] OASIS Standard, "WS-SecurityPolicy 1.2", July 2007, http://docs.oasis-open.org/ws-sx/ws-securitypolicy/200702/ws-securitypolicy-1.2-spec-os.pdf

[XMLNS] World Wide Web Consortium, "Namespaces in XML 1.0 (Third Edition)", W3C Recommendation 8 December 2009, http://www.w3.org/TR/REC-xml-names/

[XMLSCHEMA1] Thompson, H.S., Ed., Beech, D., Ed., Maloney, M., Ed., and Mendelsohn, N., Ed., "XML Schema Part 1: Structures", W3C Recommendation, May 2001, http://www.w3.org/TR/2001/REC-xmlschema-1-20010502/

[XMLSCHEMA2] Biron, P.V., Ed. and Malhotra, A., Ed., "XML Schema Part 2: Datatypes", W3C Recommendation, May 2001, http://www.w3.org/TR/2001/REC-xmlschema-2-20010502/

1.2.2 Informative References

[MS-GLOS] Microsoft Corporation, "Windows Protocols Master Glossary", March 2007.

[MS-OFCGLOS] Microsoft Corporation, "Microsoft Office Master Glossary", June 2008.

1.3 Protocol Overview (Synopsis)

This protocol enables a protocol client to send log messages to a protocol server. Each log message contains, among other information, a timestamp, a string message, the origin of the message, and the message severity.

A typical scenario for using this protocol is to have a single protocol server that aggregates log messages from multiple protocol clients in a distributed system. The protocol server typically sorts and persists incoming log messages according to timestamp and severity. By having a single

protocol server, a system administrator can use the persisted messages to monitor all protocol clients from a central location.

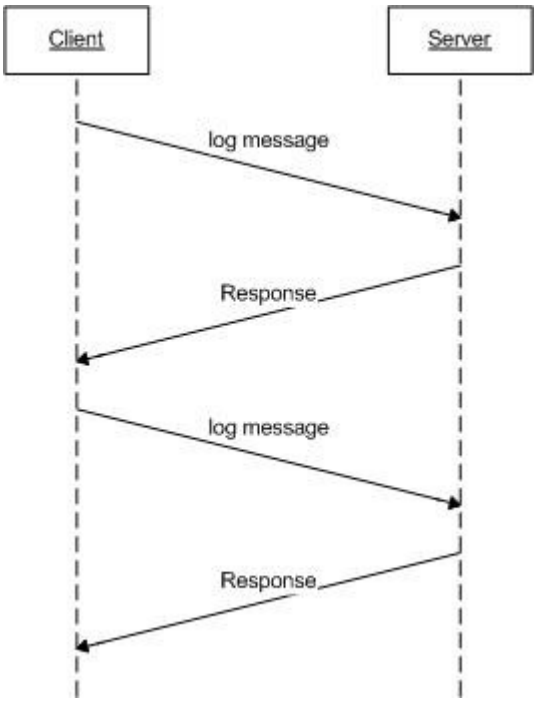

Figure 1: Communication flow in the logging protocol

1.4 Relationship to Other Protocols

This protocol uses the **SOAP** messaging protocol for formatting requests and responses as specified in [SOAP1.2/1] and [SOAP1.2/2]. It also uses SOAP message security with security contexts, as specified in [WSSE 1.0] and [WSSC1.3]. The protocol transmits these messages by using the **HTTP** protocol, as specified in [RFC2616].

The following diagram shows the underlying messaging and transport stack that this protocol uses:

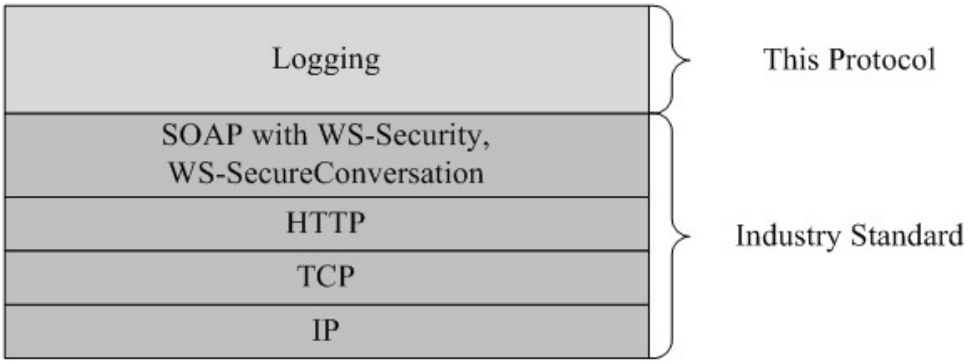

Figure 2: This protocol in relation to other protocols

1.5 Prerequisites/Preconditions

This protocol operates against a **Web site** that is identified by a URL that is known by protocol clients. The protocol server endpoint is formed by appending "/LogServer/service" to the URL of the site, for example http://www.contoso.com:3333/LogServer/service.

This protocol assumes that the underlying protocols have performed authentication.

1.6 Applicability Statement

This protocol is designed to monitor a distributed system where multiple protocol clients submit text log messages to a single protocol server. This protocol is not applicable for submission of any content other than text.

1.7 Versioning and Capability Negotiation

None.

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

Protocol servers MUST support SOAP over HTTP. Protocol servers MUST additionally support SOAP message security and security context establishment, as specified in [WSSE 1.0] and [WSSC1.3]. Authentication MUST be performed through client side certificates**.**

Protocol messages are formatted as specified in [SOAP1.2/1], Section 5. Protocol server faults are returned using either HTTP Status Codes as specified in [RFC2616], or using **SOAP faults** as specified in [SOAP1.2/1], section 5.4.

2.2 Common Message Syntax

This section contains common definitions that are used by this protocol. The syntax of the definitions uses **XML Schema**, as defined in [XMLSCHEMA1] and [XMLSCHEMA2], and **WSDL (Web Services Description Language)**, as defined in [WSDL].

2.2.1 Namespaces

This protocol specifies and references **XML namespaces** using the mechanisms specified in [XMLNS]. Although this document associates an XML namespace prefix for each XML namespace that is used, the choice of any particular XML namespace prefix is implementation-specific.

Prefix	Namespace URI	Reference
wsdl	http://schemas.xmlsoap.org/wsdl/	[WSDL]
wsa10	http://www.w3.org/2005/08/addressing	[WSA1.0 SOAP Binding] [WSA1.0 Core]
soap12	http://schemas.xmlsoap.org/wsdl/soap12/	[SOAP1.2/1] [SOAP1.2/2]
wsu	http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd	[WSSE 1.0]
wsp	http://schemas.xmlsoap.org/ws/2004/09/policy	[WSP1.5]
wsaw	http://www.w3.org/2006/05/addressing/wsdl	[WSA1.0]
tns	http://Microsoft.SharePoint.Search.Extended.MonitoringService.LogServer.WCFServer	This document
sp	http://schemas.xmlsoap.org/ws/2005/07/securitypolicy	[WSSP1.2]
xsd	http://www.w3.org/2001/XMLSchema	[XMLSCHEMA1] [XMLSCHEMA2]
mssp	http://schemas.microsoft.com/ws/2005/07/securitypolicy	[MS-WSSEC]

2.2.2 Messages

None

2.2.3 Elements

None

2.2.4 Complex Types

The following table summarizes the complex types that are specified in this document.

Complex type	Description
ArrayOfLogMessageWCF	An array of **LogMessageWCF** elements.
LogMessageWCF	Contains information about a log message.

2.2.4.1 ArrayOfLogMessageWCF

The **ArrayOfLogMessageWCF** complex type contains an array of **LogMessageWCF** elements.

```
<xsd:complexType name="ArrayOfLogMessageWCF">
    <xsd:sequence>
        <xsd:element minOccurs="0" maxOccurs="unbounded" name="LogMessageWCF"
            nillable="true" type="tns:LogMessageWCF"/>
    </xsd:sequence>
</xsd:complexType>
```

LogMessageWCF: Zero or more **LogMessageWCF** elements, as specified in section 2.2.4.2.

2.2.4.2 LogMessageWCF

The **LogMessageWCF** complex type provides information about the message to log.

```
<xsd:complexType name="LogMessageWCF">
  <xsd:sequence>
    <xsd:element minOccurs="0" name="Collection" nillable="true"
      type="xsd:string"/>
    <xsd:element minOccurs="0" name="Host" nillable="true" type="xsd:string"/>
    <xsd:element minOccurs="0" name="Level" type="xsd:int"/>
    <xsd:element minOccurs="0" name="Message" nillable="true" type="xsd:string"/>
    <xsd:element minOccurs="0" name="MessageId" type="xsd:int"/>
    <xsd:element minOccurs="0" name="Module" nillable="true" type="xsd:string"/>
    <xsd:element minOccurs="0" name="TimeStamp" type="xsd:dateTime"/>
  </xsd:sequence>
</xsd:complexType>
```

Collection: The name of a **content collection**. If a log message is not associated with any content collection, this element MUST contain the value "systemmsg".

Host: A server identifier and optional port number where the message originates.

Level: An integer whose values MUST be 1 through 6. Each number represents the relative importance of the message, as follows:

Value	Description
1	CRITICAL
2	ERROR
3	WARNING
4	INFO
5	VERBOSE
6	DEBUG

Message: The message to log.

MessageId: Identifies log messages of a certain type. The protocol server specifies unique message identifiers that protocol clients can use. The message identifier MUST be a message identifier that was specified by the protocol server, or it MUST contain a value of "-1", which specifies that this message is of no specific type. If the message identifier does not conform to these restrictions, then protocol server behavior is undefined.

Module: The application that created this message.

TimeStamp: A **DateTime** that represents the time of the **event**.

2.2.5 Simple Types

None.

2.2.6 Attributes

None.

2.2.7 Groups

None.

2.2.8 Attribute Groups

None.

2.3 Directory Service Schema Elements

None.

3 Protocol Details

The client side of this protocol is simply a pass-through. That is, no additional timers or other state is required on the client side of this protocol. Calls made by the higher-layer protocol or application are passed directly to the transport, and the results returned by the transport are passed directly back to the higher-layer protocol or application.

Except where specified, protocol clients MUST interpret the HTTP Status Codes as specified in [RFC2616] section 10, "Status Code Definitions".

3.1 Protocol Server Details

3.1.1 Abstract Data Model

This section describes a conceptual model of possible data organization that an implementation maintains to participate in this protocol. The described organization is provided to facilitate the explanation of how the protocol behaves. This document does not mandate that implementations adhere to this model as long as their external behavior is consistent with that described in this document.

The protocol client sends a log message to the protocol server to persist a message, and the protocol server sends a return message to the protocol client. The protocol client determines whether the protocol server correctly processed the log message by verifying the return message, as specified in section 3.1.4.1.2.2.

3.1.2 Timers

None.

3.1.3 Initialization

None.

3.1.4 Message Processing Events and Sequencing Rules

The following table summarizes the list of **WSDL operations** that are defined in this specification:

Operation	Description
Log	Logs one or more messages.

3.1.4.1 Log

This operation adds one or more messages to the log.

```
<wsdl:operation name="Log">
   <wsdl:input
wsaw:Action="http://Microsoft.SharePoint.Search.Extended.MonitoringService.LogServer.WCFServe
r/ILogServer/Log" message="tns:ILogServer_Log_InputMessage" />
   <wsdl:output
wsaw:Action="http://Microsoft.SharePoint.Search.Extended.MonitoringService.LogServer.WCFServe
r/ILogServer/LogResponse" message="tns:ILogServer_Log_OutputMessage" />
</wsdl:operation>
```

The client sends an **ILogServer_Log_InputMessage** request message, and the server responds with an **ILogServer_Log_OutputMessage** response message.

3.1.4.1.1 Messages

The following **WSDL message** definitions are specific to this operation.

3.1.4.1.1.1 ILogServer_Log_InputMessage

This is the request to initiate the operation that logs messages.

The **SOAP action** value is:

```
http://Microsoft.SharePoint.Search.Extended.MonitoringService.LogServer.WCFServer/ILogServer/
Log
```

The **SOAP body** contains a **Log** element, as specified in section 3.1.4.1.2.1.

3.1.4.1.1.2 ILogServer_Log_OutputMessage

This message represents the response associated with the **Log** WSDL operation.

The SOAP action value is:

```
http://Microsoft.SharePoint.Search.Extended.MonitoringService.LogServer.WCFServer/ILogServer/
LogResponse
```

The SOAP body contains a **LogResponse** element, as specified in section 3.1.4.1.2.2.

3.1.4.1.2 Elements

The following **XML Schema** element definitions are specific to this operation.

3.1.4.1.2.1 Log

This structure is contained in an **ILogServer_Log_InputMessage** message and contains the log messages that the protocol client is requesting to add.

```
<xsd:element name="Log">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element minOccurs="0" name="messages" nillable="true"
                type="tns:ArrayOfLogMessageWCF"/>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
```

Messages: MUST be of type **ArrayOfLogMessageWCF**.

3.1.4.1.2.2 LogResponse

```
<xsd:element name="LogResponse">
    <xsd:complexType>
```

```
        <xsd:sequence>
           <xsd:element minOccurs="0" name="LogResult" nillable="true"
               type="xsd:string" />
         </xsd:sequence>
      </xsd:complexType>
  </xsd:element>
```

LogResult: The string "ok" MUST be returned upon successful completion. The **Log** operation allows no other messages.

3.1.4.1.3 Complex Types

None.

3.1.4.1.4 Simple Types

None.

3.1.4.1.5 Attributes

None.

3.1.4.1.6 Groups

None.

3.1.4.1.7 Attribute Groups

None.

3.1.5 Timer Events

None.

3.1.6 Other Local Events

None.

4 Protocol Examples

As specified in section 1.4, this protocol uses SOAP message security. For clarity, all SOAP requests and responses are shown in clear text, without SOAP message security.

4.1 Log message example

The protocol client sends a **ILogServer_Log_InputMessage** request to log a message.

```
<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action s:mustUnderstand="1">
http://Microsoft.SharePoint.Search.Extended.MonitoringService.LogServer.WCFServer/ILogServer/
Log
    </a:Action>
    <a:MessageID>urn:uuid:117ae174-0261-4d76-b346-e596672fecf4</a:MessageID>
    <a:ReplyTo>
      <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
    <a:To s:mustUnderstand="1">...</a:To>
  </s:Header>
  <s:Body>
    <Log
xmlns="http://Microsoft.SharePoint.Search.Extended.MonitoringService.LogServer.WCFServer">
      <messages
xmlns:b="http://Microsoft.SharePoint.Search.Extended.MonitoringService.LogServer.WCFServer"
xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
        <b:LogMessageWCF>
          <b:Collection>SampleCollection</b:Collection>
          <b:Host>716XQ3J</b:Host>
          <b:Level>3</b:Level>
          <b:Message>Sample log message text</b:Message>
          <b:MessageId>12345</b:MessageId>
          <b:Module>SampleModule</b:Module>
          <b:TimeStamp>2009-01-16T12:30:03.4422457+01:00</b:TimeStamp>
        </b:LogMessageWCF>
      </messages>
    </Log>
  </s:Body>
</s:Envelope>
```

The protocol server processes the log message and responds as follows:

```
<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">http://Microsoft.SharePoint.Search.Extended.MonitoringService.LogServer.
WCFServer/ILogServer/LogResponse
    </a:Action>
    <a:RelatesTo>urn:uuid:117ae174-0261-4d76-b346-e596672fecf4</a:RelatesTo>
  </s:Header>
  <s:Body>
    <LogResponse
xmlns="http://Microsoft.SharePoint.Search.Extended.MonitoringService.LogServer.WCFServer">
      <LogResult>ok</LogResult>
```

```
      </LogResponse>
    </s:Body>
  </s:Envelope>
```

5 Security

5.1 Security Considerations for Implementers

This protocol introduces no additional security considerations beyond those applicable to the underlying protocols.

5.2 Index of Security Parameters

None.

6 Appendix A: Full WSDL

For ease of implementation the full WSDL is provided as follows:

```
<?xml version="1.0" encoding="utf-8"?>
<wsdl:definitions name="LogServer"
targetNamespace="http://Microsoft.SharePoint.Search.Extended.MonitoringService.LogServer.WCFS
erver"
    xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
    xmlns:wsa10="http://www.w3.org/2005/08/addressing"
    xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
    xmlns:wsu="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-
1.0.xsd"
    xmlns:wsp="http://schemas.xmlsoap.org/ws/2004/09/policy"
    xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"
xmlns:mssp="http://schemas.microsoft.com/ws/2005/07/securitypoliccy"
    xmlns:sp="http://schemas.xmlsoap.org/ws/2005/07/securitypolicy"

xmlns:tns="http://Microsoft.SharePoint.Search.Extended.MonitoringService.LogServer.WCFServer"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <wsp:Policy wsu:Id="LogServer.Server_ILogServer_policy">
    <wsp:ExactlyOne>
      <wsp:All>
        <sp:SymmetricBinding>
          <wsp:Policy>
            <sp:ProtectionToken>
              <wsp:Policy>
                <sp:SecureConversationToken
sp:IncludeToken="http://schemas.xmlsoap.org/ws/2005/07/securitypolicy/IncludeToken/AlwaysToRe
cipient">
                  <wsp:Policy>
                    <sp:RequireDerivedKeys/>
                    <sp:BootstrapPolicy>
                      <wsp:Policy>
                        <sp:SignedParts>
                          <sp:Body/>
                          <sp:Header Name="To"
Namespace="http://www.w3.org/2005/08/addressing"/>
                          <sp:Header Name="From"
Namespace="http://www.w3.org/2005/08/addressing"/>
                          <sp:Header Name="FaultTo"
Namespace="http://www.w3.org/2005/08/addressing"/>
                          <sp:Header Name="ReplyTo"
Namespace="http://www.w3.org/2005/08/addressing"/>
                          <sp:Header Name="MessageID"
Namespace="http://www.w3.org/2005/08/addressing"/>
                          <sp:Header Name="RelatesTo"
Namespace="http://www.w3.org/2005/08/addressing"/>
                          <sp:Header Name="Action"
Namespace="http://www.w3.org/2005/08/addressing"/>
                        </sp:SignedParts>
                        <sp:EncryptedParts>
                          <sp:Body/>
                        </sp:EncryptedParts>
                        <sp:SymmetricBinding>
                          <wsp:Policy>
                            <sp:ProtectionToken>
                              <wsp:Policy>
```

```
                                <mssp:SslContextToken
sp:IncludeToken="http://schemas.xmlsoap.org/ws/2005/07/securitypolicy/IncludeToken/AlwaysToRe
cipient">
                                  <wsp:Policy>
                                    <sp:RequireDerivedKeys/>
                                    <mssp:RequireClientCertificate/>
                                  </wsp:Policy>
                                </mssp:SslContextToken>
                              </wsp:Policy>
                            </sp:ProtectionToken>
                            <sp:AlgorithmSuite>
                              <wsp:Policy>
                                <sp:Basic256/>
                              </wsp:Policy>
                            </sp:AlgorithmSuite>
                            <sp:Layout>
                              <wsp:Policy>
                                <sp:Strict/>
                              </wsp:Policy>
                            </sp:Layout>
                            <sp:IncludeTimestamp/>
                            <sp:EncryptSignature/>
                            <sp:OnlySignEntireHeadersAndBody/>
                          </wsp:Policy>
                        </sp:SymmetricBinding>
                        <sp:Wss11>
                          <wsp:Policy>
                            <sp:MustSupportRefKeyIdentifier/>
                            <sp:MustSupportRefIssuerSerial/>
                            <sp:MustSupportRefThumbprint/>
                            <sp:MustSupportRefEncryptedKey/>
                          </wsp:Policy>
                        </sp:Wss11>
                        <sp:Trust10>
                          <wsp:Policy>
                            <sp:MustSupportIssuedTokens/>
                            <sp:RequireClientEntropy/>
                            <sp:RequireServerEntropy/>
                          </wsp:Policy>
                        </sp:Trust10>
                      </wsp:Policy>
                    </sp:BootstrapPolicy>
                  </wsp:Policy>
                </sp:SecureConversationToken>
              </wsp:Policy>
            </sp:ProtectionToken>
            <sp:AlgorithmSuite>
              <wsp:Policy>
                <sp:Basic256/>
              </wsp:Policy>
            </sp:AlgorithmSuite>
            <sp:Layout>
              <wsp:Policy>
                <sp:Strict/>
              </wsp:Policy>
            </sp:Layout>
            <sp:IncludeTimestamp/>
            <sp:EncryptSignature/>
            <sp:OnlySignEntireHeadersAndBody/>
```

```
          </wsp:Policy>
        </sp:SymmetricBinding>
        <sp:Wss11>
          <wsp:Policy>
            <sp:MustSupportRefKeyIdentifier/>
            <sp:MustSupportRefIssuerSerial/>
            <sp:MustSupportRefThumbprint/>
            <sp:MustSupportRefEncryptedKey/>
          </wsp:Policy>
        </sp:Wss11>
        <sp:Trust10>
          <wsp:Policy>
            <sp:MustSupportIssuedTokens/>
            <sp:RequireClientEntropy/>
            <sp:RequireServerEntropy/>
          </wsp:Policy>
        </sp:Trust10>
        <wsaw:UsingAddressing/>
      </wsp:All>
    </wsp:ExactlyOne>
  </wsp:Policy>
  <wsdl:types>
    <xsd:schema elementFormDefault="qualified"
targetNamespace="http://Microsoft.SharePoint.Search.Extended.MonitoringService.LogServer.WCFS
erver">
      <xsd:element name="Log">
        <xsd:complexType>
          <xsd:sequence>
            <xsd:element minOccurs="0" name="messages" nillable="true"
              type="tns:ArrayOfLogMessageWCF"/>
          </xsd:sequence>
        </xsd:complexType>
      </xsd:element>
      <xsd:complexType name="ArrayOfLogMessageWCF">
        <xsd:sequence>
          <xsd:element minOccurs="0" maxOccurs="unbounded" name="LogMessageWCF"
            nillable="true" type="tns:LogMessageWCF"/>
        </xsd:sequence>
      </xsd:complexType>
      <xsd:element name="ArrayOfLogMessageWCF" nillable="true"
        type="tns:ArrayOfLogMessageWCF"/>
      <xsd:complexType name="LogMessageWCF">
        <xsd:sequence>
          <xsd:element minOccurs="0" name="Collection" nillable="true"
            type="xsd:string"/>
          <xsd:element minOccurs="0" name="Host" nillable="true"
            type="xsd:string"/>
          <xsd:element minOccurs="0" name="Level" type="xsd:int"/>
          <xsd:element minOccurs="0" name="Message" nillable="true"
            type="xsd:string"/>
          <xsd:element minOccurs="0" name="MessageId" type="xsd:int"/>
          <xsd:element minOccurs="0" name="Module" nillable="true"
            type="xsd:string"/>
          <xsd:element minOccurs="0" name="TimeStamp" type="xsd:dateTime"/>
        </xsd:sequence>
      </xsd:complexType>
      <xsd:element name="LogMessageWCF" nillable="true" type="tns:LogMessageWCF"/>
      <xsd:element name="LogResponse">
        <xsd:complexType>
```

```
          <xsd:sequence>
            <xsd:element minOccurs="0" name="LogResult" nillable="true"
              type="xsd:string"/>
          </xsd:sequence>
        </xsd:complexType>
      </xsd:element>
    </xsd:schema>
  </wsdl:types>
  <wsdl:message name="ILogServer_Log_InputMessage">
    <wsdl:part name="parameters" element="tns:Log"/>
  </wsdl:message>
  <wsdl:message name="ILogServer_Log_OutputMessage">
    <wsdl:part name="parameters" element="tns:LogResponse"/>
  </wsdl:message>
  <wsdl:portType name="ILogServer">
    <wsdl:operation name="Log">
      <wsdl:input
wsaw:Action="http://Microsoft.SharePoint.Search.Extended.MonitoringService.LogServer.WCFServe
r/ILogServer/Log" message="tns:ILogServer_Log_InputMessage"/>
      <wsdl:output
wsaw:Action="http://Microsoft.SharePoint.Search.Extended.MonitoringService.LogServer.WCFServe
r/ILogServer/LogResponse" message="tns:ILogServer_Log_OutputMessage"/>
    </wsdl:operation>
  </wsdl:portType>
  <wsdl:binding name="LogServer.Server_ILogServer" type="tns:ILogServer">
    <wsp:PolicyReference URI="#LogServer.Server_ILogServer_policy"/>
    <soap12:binding transport="http://schemas.xmlsoap.org/soap/http"/>
    <wsdl:operation name="Log">
      <soap12:operation
soapAction="http://Microsoft.SharePoint.Search.Extended.MonitoringService.LogServer.WCFServer
/ILogServer/Log" style="document"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
  </wsdl:binding>
</wsdl:definitions>
```

7 Appendix B: Product Behavior

The information in this specification is applicable to the following Microsoft products or supplemental software. References to product versions include released service packs:

- Microsoft® FAST™ Search Server 2010

Exceptions, if any, are noted below. If a service pack or Quick Fix Engineering (QFE) number appears with the product version, behavior changed in that service pack or QFE. The new behavior also applies to subsequent service packs of the product unless otherwise specified. If a product edition appears with the product version, behavior is different in that product edition.

Unless otherwise specified, any statement of optional behavior in this specification that is prescribed using the terms SHOULD or SHOULD NOT implies product behavior in accordance with the SHOULD or SHOULD NOT prescription. Unless otherwise specified, the term MAY implies that the product does not follow the prescription.

8 Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.

9 Index

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