

Release Note

WebtoB 5 Fix#4

TMAXSOFT

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`${INSTALL_PATH}/lib/licenses`

Document History

Product Version	Guide Version	Date	Remarks
WebtoB 5 Fix#4	2.1.5	2023-12-21	-

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1. Introduction

This guide describes the changes and additions to WebtoB 5. Various functions have been added for use in various production environments. Note that this guide does not cover detailed product information. For detailed information about the product, refer to the relevant guides.

1.1. Release History

Date	Version
2017-01-13	WebtoB 5 Fix#1
2018-08-24	WebtoB 5 Fix#2
2023-12-21	WebtoB 5 Fix#4

2. WebtoB 5 Fix#4

This chapter describes bug patches in WebtoB 5 Fix#4.

2.1. Bug Patches

2.1.1. Fix for Memory Leak During HTML File Processing

- Fixed memory leaks that occurred due to buffer management issues during standard HTML processing.

2.1.2. Fix for Issue of JEUS Connection Persisting After Client Disconnection

- Fixed the Issue where the connection to JEUS remained even after the client had been disconnected while sending a POST request.
- Changed the log level for HTH0285 from Debug to INFO.

2.1.3. Fix for HTTP/2 Memory Leak

- Fixed potential memory leaks in HTTP/2 Stream Manager.

2.1.4. Fix for HTTP/2 Protocol Error When Using Reverse Proxy via HTTP/2

- Fixed the issue where a HTTP/2 protocol error occurred due to an unintended inclusion of a chunk in the response header when using Reverse Proxy through HTTP/2.

3. WebtoB 5 Fix#3

This chapter describes the changes and additions in functionality and bug patches in WebtoB 5 Fix#3.

3.1. New Functions

3.1.1. HTTP/2 Support

- Newly supports HTTP/2 connections and requests.

Set HTTP2Flag = Y in the NODE section, and configure SSLFlag in the NODE or VHOST section because it is supported only when using SSL/TLS protocol.

```
*NODE
webtob      WebtoBDir = "$WEBTOBDIR",
            SSLFlag = Y,
            HTTP2Flag = Y,
            :
            :
```

3.2. Added Functions

3.2.1. More Actions in the HEADERS Section

- Added the following Action functions in the HEADERS section.

```
* HEADERS
header1     Action="AddIfAbsentRequest",
            FileName="Test_Header",
            FieldValue="test"

header2     Action="AddIfAbsentResponse",
            FileName="Test_Header",
            FieldValue="test"

header3     Action="AppendResponse",
            FileName="Test_Header",
            FieldValue="AppendResponse"

header4     Action="EchoResponse",
            FileName="Test_Header"
```

Action	Description
AddIfAbsentRequest, AddIfAbsentResponse	Can be added only when no fields have been configured. For Apache, specific conditions can be set with additional settings such as SetEnvIf.

Action	Description
AppendResponse	When there exists a pre-configured field, an additional value can be set with a comma (,).
EchoResponse	When a pre-configured field exists in the Request header, the same value can be added.



For more information about the usage, refer to "HEADERS Section" in *WebtoB Administrator's Guide*.

- Related Issue: [IMS-233552](#)

3.2.2. XFF Header Support for WJP

- Added a function that enables the transmission of the XFF (X-Forwarded-For) header from the client's Request header to JEUS as a remote IP.
- Related Issue: [IMS-208907](#)

3.2.3. Header in Reverse Proxy

- Added support for X-Forwarded-Proto and X-Forwarded-Port headers in Reverse Proxy.
- Related Issue: [IMS-213003](#)

3.2.4. Error Log Format Setting in the LOGGING Section

- Added a function for formatting error logs in the LOGGING section, using the same approach for access logs.

```
*LOGGING
error_log      Format = "ERROR", # "%h %l %u %t \"%r\" %s %b",
               Filename = "log/archives/error_%Y%M%D%.log",
               Option = "sync",
               :
               :
```



Be careful not to confuse error logs with access logs, as they use the same formatting approaches. For more information about its usage, refer to "LOGGING Section" in *WebtoB Administrator's Guide*.

- Related Issue: [IMS-213098](#), [IMS-211162](#)

3.2.5. RotateByFileSize in the LOGLEVEL Section

- Added the RotateByFileSize function in the LOGLEVEL section, which regenerates log files based on the file size.



For more information about its usage, refer to "LOGLEVEL Section" in *WebtoB Administrator's Guide*.

- Related Issue: [IMS-233595](#)

3.2.6. -rf Option for the loglevel Command

- Added the -rf (RotateByFileSize) option for the loglevel command in wsadmin, and changed the existing -r option to -rs (RotateBySeconds).

```
*LOGLEVEL
.hth      Level="Trace",
          RotateBySeconds = 100,
          RotateByFileSize = 10000,
          options = "dsW",
          :
          :
```

```
$$1 tmaxsoft (wsadm) [2020-08-11T17:26:46]: cfg -ll
LOGLEVEL: Logger = .hth,
          Level = TRACE,
          Options = dsW,
          RotateBySeconds = 100,
          RotateByFileSize = 10000
```

```
$$1 tmaxsoft (wsadm) [2020-08-03T01:40:06]: ll
Usage: ll logername -l level | -o options | -rs rotatebyseconds | -rf rotatebyfilesize
logername : name of the logger (e.g. .hth)
level : TRACE|DEBUG|INFO|WARN|FATAL
options : [-]dcR,dcW,dsR,dsW
          '-' turns off the specified options
rotatebyseconds : trace log files separately by time (e.g. 500)
rotatebyfilesize : trace log files separately by file size (e.g. 100000000)
```



For more information about the usage, refer to "ll" in *WebtoB Administrator's Guide*.

- Related Issue: [IMS-233595](#)

3.2.7. SessionIdUrlKey in the SERVER Section

- Added the SessionIdUrlKey function in the SERVER section, which maintains sessions in browsers that block cookies.

```
*SERVER
MyGroup      SvgName = jsvg,
              MinProc = 10,
              MaxProc = 20,
              SessionIdUrlKey = "jsessionid",
              :
              :
```

- If both SessionIdCookieKey and SessionIdUrlKey are configured, SessionIdCookieKey takes precedence.



For more information about the usage, refer to "SERVER Section" in *WebtoB Administrator's Guide*.

- Related Issue: [IMS-204793](#)

3.2.8. FA Scheduling for Worker Threads

- Added the FA (First Available) scheduling mode to address a situation where there are blocked worker threads.
- You can set the schedule setting to FA or RR in the HTH_THREAD section. (Default value: FA)

```
*HTH_THREAD
hth_worker   SendfileThreads = 10,
              SendfileThreshold=32768,
              Schedule = FA,
              :
              :
```

The following describes each setting value.

Value	Description
RR	Round Robin mode. Incoming requests are allocated to all worker threads sequentially.
FA	First Assign mode. Incoming requests are primarily allocated to the least loaded worker thread.



For more information about the usage, refer to "HTH_THREAD Section" in

- Related Issue: [IMS-212463](#)

3.2.9. Supplementary Code for Queued Requests After Timeout

- Added supplementary code for preventing HTH core issues and processing subsequent requests in the queue after a timeout occurred while the client's request was being sent to JEUS.
- When the added supplementary code is running, the HTH0529 message is printed in the syslog.
- Related Issue: [IMS-222345](#)

3.2.10. task_type for the 'st -t' Command in wsadmin

- Added task_type for the 'st -t' command of wsadmin, to print the type of a task that is being processed by the worker thread.
- The task type is displayed only when the worker thread is in the RUN state, (otherwise NONE), and even though the status is RUN, the task type may be marked as NONE.

```
$$74 tmaxsoft (wsadm) [2020-07-29T11:21:54]: st -t
```

```
HTH 0: RDY
```

no	thread_id	status	elapsed	atasks	ptasks	qtasks	task_type
0	ACCESSLOG	RDY	0	453115	453115	0	NONE
1	WORKER001	RUN	0	326226	326225	1	SSLWRITE
2	WORKER002	RUN	0	167882	167881	1	SSLREAD
3	WORKER003	RUN	0	134442	134441	1	SSLREAD
4	WORKER004	RDY	0	106250	106250	0	SSLREAD
5	WORKER005	RDY	0	81404	81404	0	NONE
6	WORKER006	RDY	0	58007	58007	0	NONE
7	WORKER007	RDY	0	37496	37496	0	NONE
8	WORKER008	RDY	1	20338	20338	0	NONE
9	WORKER009	RDY	1	10957	10957	0	NONE
10	WORKER010	RDY	1	5671	5671	0	NONE



For more information about the usage, refer to "stat (st)" in *WebtoB Administrator's Guide*.

- Related Issue: [IMS-120109](#)

3.2.11. Displaying Remote IP in Messages When Connections for JSV are Insufficient

- Added a function to print the client IP (remote IP) in the system logs ([HTH-00063] and [HTH-00292]) when there are insufficient connections (SPR) for JSV.
- Related Issue: [IMS-223842](#)

3.2.12. String Formatting for Logging in FieldValue in the HEADERS Section

- Added support for string formatting for logging in FieldValue in the HEADERS section.
- Supports the escape character '%' for log formatting.

3.2.13. IncludeSslDump Option in the LOGLEVEL Section

- Added the IncludeSslDump option in the LOGLEVEL section, which includes SSL Dump in trace logs. (Default value: N)

3.2.14. IPGroup in the ACCESS Section

- Added IPGroup in the ACCESS section to facilitate configuration for grouping Allow/Deny IPs.
- The IP group names can be used in the Allow or Deny setting in the ACCESS section.

```
*IPGroup
ipgroup1      IP = "localhost, 192.168.13.49"
ipgroup2      IP = "localhost, 192.168.13.49, 192.168.13.50"

*ACCESS
access_allow  Order = "allow,deny",
              Allow = "ipgroup1"
access_deny   Order = "deny,allow",
              Deny = "ipgroup2"
```



For more information about the usage, refer to "ACCESS Section" in *WebtoB Administrator's Guide*.

- Related Issue: [IMS-201979](#)

3.2.15. Individual Encoding for VHOST

- Added a function to configure encoding individually for each vhost.


```
*VHOST
vhost1      :
            CheckURL = Y, # default : N
            CheckURLFrom = "euc-kr", # default: utf-8
            CheckURLTo = "utf-8",
            CheckUrlJsvExcept = Y, # default : N
            :
            :
```

The following describes each setting value.

Value	Description
CheckURL	Indicates whether to convert the charset of the HTTP Request URL path. If set to Y, CheckURLFrom and CheckURLTo need to be configured.
CheckURLFrom	Specifies the charset used by the HTTP Request URL path.
CheckURLTo	Specifies the charset used by the server.
CheckUrlJsvExcept	Indicates whether to apply the CheckURL setting for a request that will be forwarded to JEUS. If set to Y, the URI will not be converted when the request is sent to JEUS.



For more information about the usage, refer to "VHOST Section" in *WebtoB Administrator's Guide*.

- Related Issue: [IMS-201972](#)

3.2.16. MultiStatus in the ERRORDOCUMENT Section

- Added MultiStatus to configure multiple HTTP status codes for the same URL.
- The specified statuses will be applied in the order where each status has been specified.

```
*ERRORDOCUMENT
errordoc1  MultiStatus = "403,404,413,414,500,503",
           Url = "/error.html",
           :
           :
```



For more information about the usage, refer to "ERRORDOCUMENT Section" in *WebtoB Administrator's Guide*.

- Related Issue: [IMS-196685](#)

3.2.17. LOGHANDLER Settings

- Added a function to leave WebtoB access logs in a user-specified remote server. The remote server's address, path of the log files, and a connection timeout can be configured.
- The LOGHANDLER name can be used for the LogHadler setting in the LOGGING section.

```
*LOGHANDLER
lh1      ServerAddress = "remote.server.com:8080",
        ConnectTimeout = 3,
        ReconnectTime = 10,
        Timeout = 60,
        Resource = "webtob/accesslog",
        Protocol = "HTTP",
        :
        :
```

The following describes each setting value.

Item	Description
<i>LOGHANDLER setion name</i>	Name of the LOGHANDLER section. (e.g. lh1)
ServerAddress	Address of the remote server in which access logs will be saved.
ConnectTimeout	Time period during which a request for connection to the remote server waits for the connection.
ReconnectTime	Time period during which a request waits for reconnection to the remote server after a connection attempt has failed.
Timeout	Time period during which the connection to the remote server remains idle without receiving any requests for storing access logs. After the timeout, the remote server connection will be closed.
Resource	Path of the location in which access logs will be stored in the remote server.
Protocol	Protocol to use for sending access log requests to the remote server.



For more information about the usage, refer to "LOG_HANDLER Section" and "LOGGING Section" in *WebtoB Administrator's Guide*.

3.2.18. Command logsearch to Look for Log Files Contents

- Added a function to search for a specific string in a log file specified by using the webadmin command.

```
$$1 webtob (wsadm)
[2020-07-29T14:58:35]: logsearch successfully system.log_07292020
```

```
[2020-07-29T10:44:16] [HTH(22378)] [I] [HTH-00074] Successfully connected and
registered to HTL. HTH is ready to receive client connections.
[2020-07-29T10:44:16] [HTL(22377)] [I] [HTL-00021] Successfully registered HTH.
Start listening for this HTH. index=0, fd=6
[2020-07-29T14:57:29] [HTH(4901)] [I] [HTH-00074] Successfully connected and
registered to HTL. HTH is ready to receive client connections.
[2020-07-29T14:57:29] [HTL(4900)] [I] [HTL-00021] Successfully registered HTH. Start
listening for this HTH. index=0, fd=6
```



For more information about the usage, refer to "logsearch" in *WebtoB Administrator's Guide*.

- Related Issue: [IMS-186536](#)

3.2.19. Option to Raise an Error for Invalid HTTP Request header

- Added an option to raise an error when an HTTP request header is invalid. It is possible to either ignore the invalid header or handle it as an error.
- An HTTP request header consists of a name and value pair, separated by a colon ("name:value"). This option determines whether to ignore a header that lacks a colon and proceed to the next header.

```
*NODE
webtob      :
             IgnoreMissingColonErr = Y,
             :
```

Item	Description
IgnoreMissingColonErr	The following describes the setting values. <ul style="list-style-type: none"> • Y: Ignores an invalid header. • N: Sends a "400 Bad Request" response.



For more information about the usage, refer to "NODE Section" in *WebtoB Administrator's Guide*.

- Related Issue: [IMS-178412](#)

3.2.20. Headers Settings Added in Reverse Proxy

- Added the Headers setting in REVERSE_PROXY_GROUP and REVERSE_PROXY, to support headers

for Reverse Proxy.

- The configuration and behaviors are the same as the Headers settings in the SERVER and SVRGROUP sections.

```
*REVERSE_PROXY_GROUP
rproxygroup1      :
                  Headers = "header1, header2"

*REVERSE_PROXY
rproxy1           :
                  Headers = "header1, header2"
```



For more information about the usage, refer to "REVERSE_PROXY_GROUP Section" and "REVERSE_PROXY Section" in *WebtoB Administrator's Guide*.

- Related Issue: [IMS-178383](#)

3.2.21. LBSvgName Added in the URI Section for Load Balancing

- Added a function to distribute load between servers based on the SvrGroup settings.
- The SVRGROUP setting specified by LBSvgName must contain the LBServers or LBBBackup option.

```
*URI
uri1      Uri = "/jsvtest/",
          Svrtype = JSV,
          LBSvgName = jsvg

*SVRGROUP
jsvg      SvrType = JSV,
          LBServers = "MyGroup",
          LBBBackup = "MyGroup2"

*SERVER
MyGroup   SVGNAME = jsvg
MyGroup2  SVGNAME = jsvg
```



For more information about the usage, refer to "SVRGROUP Section" and "SERVER Section" in *WebtoB Administrator's Guide*.

- Related Issue: [IMS-173652](#)

3.3. Updated Functions

3.3.1. WBSL Version Upgrade

- Upgraded from WBSL 3.1_1.0.2s to WBSL 1.1.1d.
- Supports the TLS v1.3 protocol.
- No longer supports versions that are less than SSL v3.

```
$>wbssl version
WBSL 1.1.1d 10 Sep 2019
```

- Starting from the current version, OpenSSL version numbers are used instead of unique version numbers specific to WBSL.

3.3.2. -r Option of the loglevel Command Changed to -rs

- Changed the existing -r option to -rs (RotateBySeconds), to add the -rf (RotateByFileSize) functionality to the loglevel command of wsadmin.

```
$> wsadmin
$$3 tmaxsoft (wsadm) [2020-08-11T15:42:18]: ll
Usage: ll logername -l level | -o options | -rs rotatebyseconds | -rf rotatebyfilesize
logername : name of the logger (e.g. .hth)
level : TRACE|DEBUG|INFO|WARN|FATAL
options : [-]dcR,dcW,dsR,dsW
          '-' turns off the specified options
rotatebyseconds : trace log files separately by time (e.g. 500)
rotatebyfilesize : trace log files separately by file size (e.g. 100000000)
```



For more information about the usage, refer to "ll" in *WebtoB Administrator's Guide*.

- Related Issue: [IMS-233595](#)

3.3.3. Increased Maximum Value for RegExp String

- Changed the maximum string size from [256] to [512] for RegExp in the SVRGROUP, REVERSE_PROXY_GROUP, REVERSE_PROXY, HEADERS, and EXT sections.
- Related Issue: [IMS-217612](#)

3.3.4. Default Value of SendfileThreshold Changed in the HTH_THREAD Section

- Changed the default value of the SendfileThreshold setting in the HTH_THREAD section from 32768 to 0.
- Related Issue: [IMS-217936](#) , [IMS-216690](#), [IMS-217549](#)

3.3.5. Default Value of InitialConnectionTimeout Changed in the NODE Section

- Changed the default value of the InitialConnectionTimeout setting in the NODE section from 0 to 10.

3.3.6. Log Level Changes

- Modified log levels
 - Changed the log levels for HTH0374 and HTH0295 from FATAL to DEBUG.
 - Changed the log levels for HTH0113 and HTH0099 from INFO to DEBUG.
 - Changed the log levels for HTH0295 and HTH0374 from FATAL to DEBUG.
 - Changed the log level for HTH0094 from DEBUG to WARN.
 - Changed the log level for HTH5037 to DEBUG.
- Related Issue: [IMS-233567](#), [IMS-222345](#), [IMS-197843](#), [IMS-193693](#)

3.3.7. No Cache for Responses to Requests Ending with a Directory URI

- Responses to any requests ending with a directory URI are no longer cached.
- Related Issue: [IMS-239793](#)

3.3.8. Behaviors Changed When the Request and Errordoc Have the Same URL

- Changed the behaviors of methods other than GET and POST to align with the behaviors of GET, in order to prevent infinite loops if the request URL matches the errordoc's URL when using other methods than GET and POST.
- Related Issue: [IMS-197432](#)

3.3.9. Exception Handling for Managing Client Connections During SSL Processing

- Fixed the problem where waiting occurred until the timeout without recognizing the client has been disconnected during SSL processing.
- Related Issue: [IMS-197455](#)

3.3.10. Supplementary Code for Unrequested Responses from JSV

- Added supplementary code to check for any responses that are not intended for WebtoB's requests towards JEUS, discard those responses and disconnect the corresponding JSV connections.
- Added HTH0499 as a related message.
- Related Issue: [IMS-170761](#)

3.4. Bug Patches

3.4.1. Fix for Intermittently failed JSV Compression

- Fixed the issue where JSV compression intermittently failed.
- Related Issue: [IMS-204873](#)

3.4.2. Fix for No CRLF When Processing Chunked Requests Larger than Ring buffer

- Fixed the issue where it was unable to find the CRLF when processing chunked requests that were larger than the ring buffer.
- Related Issue: [IMS-207302](#)

3.4.3. Fix for Incorrect '%b' in Access Log for Chunked JSV Response

- Fixed the issue where '%b' (the response size) was incorrectly calculated and printed in the access log for a JSV response containing the header Transfer-Encoding: chunked.
- Related Issue: [IMS-233567](#)

3.4.4. Fix for HTH Core Bug When Using AddResponse in HEADERS

- Fixed the core bug issue which occurred when adding a large header by using the AddResponse

setting in the HEADERS configuration.

- Related Issue: [IMS-233568](#)

3.4.5. Fix for Options Setting Bugs in NODE and VHOST

- Fixed the issue where -PYTHON and -FILTER were unavailable in the Options setting in the NODE and VHOST sections.
- Related Issue: [IMS-210035](#)

3.4.6. Fix for Core Bug from wscfl When Configuring LBBackup in SVRGROUP

- Fixed the core bug issue that occurred when running wscfl for configuring the LBBackup setting in the SVRGROUP section.
- Related Issue: [IMS-213425](#)

3.4.7. Fix for Integer Overflow During cachelist Processing

- Fixed the issue where, during processing of the cachelist command, the total content length of the cache list exceeded the maximum int value, resulting in an overflow to a negative number.
- Related Issue: [IMS-221376](#)

3.4.8. Fix for Incorrect 'conns' Printing During Execution of 'restat' in Reverse Proxy

- Fixed the issue where the 'st -rpg' command, used to view information, incorrectly printed the conns item (number of connections) when initializing statistics with the 'restat' command in a Reverse Proxy environment.
- Related Issue: [IMS-181798](#)

3.4.9. Fix for No SHMS Restart for JSV at HTH Startup

- Fixed the issue where duplicate or repeated HTH connections were displayed when restarting HTH, because SHMS had not been initialized for JSV at the startup of HTH.
- Related Issue: [IMS-223842](#)

3.4.10. Fix for Memory Leak When Sending 100-continue Response

- Fixed the issue of memory leaks that occurred when using "Expect: 100-continue" in the request header.
- Related Issue: [IMS-223192](#)

3.4.11. Fix for WSM Conflict During WebtoB Shutdown

- Fixed the issue of WSM conflicts that prevented WebtoB from successfully shutting down.
- Related Issue: [IMS-231536](#)

3.4.12. Fix for Incorrect Status Code Response to Invalid DIGEST Request

- Fixed the issue where the status code 400 was inadvertently sent instead of "401 Unauthorized" in response to an HTTP BASIC/DIGEST authentication request with an invalid authorization information.
- Related Issue: [IMS-232848](#)

3.4.13. Fix for HTH Core Bug When Using the unsetResponse Header

- Fixed the issue of HTH core that occurred when using the unsetResponse header.
- Related Issue: [IMS-234960](#)

3.4.14. Fix for HTH Core Bug When Executing the hthmem Command in SunOS SPARC

- Fixed the issue of HTH core that occurred when executing the hthmem command in SunOS SPARC.
- Related Issue: [IMS-201358](#), [IMS-201303](#)

3.4.15. Fix for HTH Core Bug During Buffer Reallocation for Compression and Header AddResponse

- Fixed the issue of HTH core that occurred during buffer reallocation to accommodate larger data, which was added as a result of using AddResponse in the Headers section.
- Related Issue: [IMS-238001](#)

3.4.16. Fix for HTH Core Bug During WebDAV PROPFIND Method Processing

- Fixed the issue of HTH core that occurred due to a response body exceeding 8 KB during the processing of the WebDAV PROPFIND method.
- Related Issue: [IMS-238863](#)

3.4.17. Fix for Incorrect cfl Line Number Printing in CFL-05010 and CFL-05011

- Fixed the issue where, when setting an option not supported by Windows, executing 'wscfl' would print the option's setting value in CFL-05010 and CFL-05011.
- Related Settings: HTH_THREAD.SendfileThreads, SendfileThreshold, AccessLogThread
- Related Issue: [IMS-239953](#)

3.4.18. Fix for Core Bug When Calling Directory URI with ServiceOrder 'EXT, URI'

- Fixed the issue where calling a directory URI with the ServiceOrder set as 'EXT,URI' resulted in the request being added to the cache, causing a core bug.
- Modified to ensure that responses to requests ending with a directory URI are not cached, irrespective of the ServiceOrder setting.
- Related Issue: [IMS-239793](#)

3.4.19. Fix for Timeout Error Due To a JSV Message Exceeding the Setting Value

- Fixed the issue where an infinite loop and timeout error occurred if the size of a message sent from JEUS to WebtoB via JSV exceeded the FlowControl buffer setting in WebtoB.
- Related Issue: [IMS-203845](#)

3.4.20. Fix for HTH Core Bug Due To CacheMaxCompressSize

- Fixed the issue where an HTH core bug occurred when setting CacheMaxCompressSize.
- Related Issue: [IMS-203032](#)

3.4.21. Fix for HTH Core Bug Due To PROXY_SSL

- Fixed the issue where, if PROXY_SSL was set, terminating the connection before the client received the response resulted in an HTH core bug.
- Related Issue: [IMS-203281](#)

3.4.22. Fix for HTH Core Bug Due To Using PROXY_SSL With PersistentConnection

- Fixed the issue where an HTH core bug occurred when using PROXY_SSL and PersistentConnection at the same time in ReverseProxy.
- Related Issue: [IMS-176628](#)

3.4.23. Fix for Error Occurring When Sending Messages in Reverse Proxy with PROXY_SSL

- Fixed the issue where, when sending a chunked message in Reverse Proxy with the PROXY_SSL setting, an internal event processing issue occurred, resulting in the generation of a 400 or 404 error.
- Related Issue: [IMS-187018](#)

3.4.24. Fix for No Output Issue When Executing SSL Write for Responses

- Fixed the issue where certain static files were not processed due to an incorrect determination that the client had been disconnected during SSL writing for a response that had been processed in MyWebServer HTMLS.
- Related Issue: [IMS-202614](#)

3.4.25. Fix for SSL Requests Not Being Processed

- Fixed the issue where certain SSL requests were not processed by modifying the errorno (error numbers) processing mechanism for SSL errors processing.
- Related Issue: [IMS-197920](#)

3.4.26. Fix for HTH Core Bug During JEUS Shutdown While Using WJPv2

- Fixed the issue where an HTH core bug occurred due to failed message processing during the

shutdown of JEUS while using WJPv2.

- Related Issue: [IMS-197843](#)

3.4.27. Fix for HTH Core Bug During Error Logging for Large Chunked Requests

- Fixed the issue where an HTH core bug issue occurred during the error logging for a large chunked request.
- Related Issue: [IMS-185884](#)

3.4.28. Fix for HTH Core Bug During Large Files Caching Through FlowControl Buffer

- Modified to cache only responses, including the header, that exceed the FlowControl buffer size.
- Modified to limit the maximum setting value for CacheMaxFileSize to a value smaller than the FlowControl buffer size.
- Related Issue: [IMS-190625](#)

3.4.29. Fix for Core Bug While Sending Compressed JSV Responses To Client Via SSL

- Fixed the issue where a core bug occurred when attempting to send a compressed JSV response to the client via SSL. This was caused by the response size and compressed contents being too large to be sent in a single attempt.
- Related Issue: [IMS-188265](#)

3.4.30. Fix for Erroneous Disconnection Without Sending Response Messages During Normal Shutdown of JEUS

- Fixed the issue where, during a normal shutdown of JEUS while using WJPv2, an erroneous disconnection occurred without completing the requests that were being processed.
- Related Issue: [IMS-187653](#)

3.4.31. Fix for No initialization of TCPGW information When Executing 'restat -a'

- Fixed the issue where the 'restat -a' command in wsadmin was unable to initialize the information printed with 'st -tcpgw'.

- Related Issue: [IMS-176845](#)

3.4.32. Fix for HTH Core Bug When RequestLevelPing Is Used with Client Connected Via SSL

- Fixed the core bug that occurred when the RequestLevelPing feature was set to Y while the client was connected to JEUS using SSL. This was caused due to the processing speed of the connected JEUS server being slower than the speed at which the client requests were sent.
- Related Issue: [IMS-184354](#), [IMS-184207](#), [IMS-184079](#)

3.4.33. Fix for POST Request Error While Using RequestLevelPing

- Fixed the error that occurred when sending the POST request body to JEUS while using RequestLevelPing in WJPv2.
- Related Issue: [IMS-178356](#)

3.4.34. Fix for ERRORDOCUMENT Setting In VHOST Not Working

- Fixed the issue where the ERRORDOCUMENT setting in the VHOST section wasn't functioning properly, due to the ForceCacheModificationCheck setting being unable to locate the VHOST while generating the error message.
- Related Issue: [IMS-174041](#)

4. WebtoB 5 Fix#2

This chapter describes the changes and additions in functionality and bug patches in WebtoB 5 Fix#2.

4.1. New Functions

4.1.1. Scale-out Detection and Graceful Connection Admin Commands

- Added function to detect and process scaling in and out of WebtoB servers in the cloud environment.

You can use 'wsadmin > cfg -d' command to check the connection information.

Monitoring Settings Added to *DOMAIN

```
$>wsadmin
--- Welcome to WebtoB Admin (Type "quit" to leave) ---
$$1 qpsx2 (wsadm) [2017-09-11T13:27:46]: cfg -d
    DOMAIN: Name = webtob1,
           DomainId = 0,
           MaxSvc = 512,
           NHthChkTime(nct) = 30,
           CloudFriendWebServers(cfws) = 1,
           CloudFriendJsvServers(cfjs) = 1,
           CloudConnectionBalance(ccb) = 50,
           CloudDasAddress = "192.168.1.1:9736"
```

4.1.2. WebtoB Graceful Shut Down Implementation (wsdown -G)

- Added 'wsdown -G' command to wait until all client FDs of an HTH are closed before shutting down the HTH. FDs are forcibly closed when timeout (seconds) expires.

wsdown -G (timeout_sec) Command

```
$>wsdown -G 10

WSDOWN for node(qpsx1) is starting:
WSDOWN: HTL downed: Fri Jul 20 04:14:04 2018
WSDOWN: HTH downed: Fri Jul 20 04:14:04 2018
WSDOWN: WSM downed: Fri Jul 20 04:14:04 2018
WSDOWN: Graceful Down
```

4.1.3. Session Redistribution During JEUS Scale Out

- WebtoB maintains the session count for each connected JEUS and redistributes the sessions when JEUS scales out. It uses session ID hashing on sticky sessions and distributes them evenly

across JEUS servers, and then configures them as sticky sessions again.

4.1.4. WSM and JEUS DAS Communication Protocol for the Cloud

- Added communication protocol between WSM and DAS to allow auto scale event notification between WebtoB and JEUS in the cloud.

Configure JEUS DAS IP (Method 1) and port or set them in the environment variable (Method 2).

- Method 1)

```
*DOMAIN.CloudDasAddress="Das.host.com:9736"
```

- Method 2)

```
*DOMAIN.CloudDasAddress="$(DASURL)"
```

You can use the `*DOMAIN.CloudServiceGroupId` setting to identify WebtoB by each cloud service.

`*DOMAIN.CloudDasAddress` and `CloudServiceGroupId`

```
*DOMAIN
webtob1      CloudDasAddress = "192.168.1.1:9736",    #"$DASURL", $ENV
              CloudServiceGroupId = "group1"
```

- Related issue: [IMS-149295](#)

4.1.5. SSL.DHParameter

- Added this setting to support a 2048bit Diffie-Hellman group.

You can create a 2048 bit `dhparams.pem` file and set its path to the `*SSL.DHParameter` setting.

Creating a 2048 bit `dhparams.pem` File

```
$>wbssl dhparam -out dhparams.pem 2048
```

`*SSL.DHParameter` Setting

```
*SSL
ssl      ...
          DHParameter = = "$(WEBTOBDIR)/ssl/dhparams.pem"
          ...
```

- Related issue: [IMS-123759](#)

4.1.6. ExcludeAllowHeaderOnError As NODE.Options

- Added this option to exclude "Allow" from the response header for 400 level error responses to avoid security vulnerabilities.

ExcludeAllowHeaderOnError As NODE.Options

```
*NODE
webtob      WEBTOBDIR = "/home/webtob5",
            SHMKEY = 54800,
            Options = "ExcludeAllowHeaderOnError"
```

- Related issue: [IMS-131070](#)

4.1.7. AUTHENT.ACCESS

- Added this setting to specify a specific IP bandwidth in the *AUTHENT section.

*AUTHENT.AccessName Setting

```
*AUTHENT
auth1      Type = Basic,
           UserFile = "/home/server/webtob/auth/auth1.pass",
           AccessName = access1

*ACCESS
access1    Order = "allow,deny",
           Allow = "192.168.0.0/255.255.0.0"

*SVRGROUP
htmlg     SVRTYPE = HTML, AuthentName = auth1
jsvg     SVRTYPE = JSV
```

- Related issue: [IMS-137456](#)

4.1.8. SVRGROUP.UserAgentRegExp

- Added this setting to the *SVRGROUP section to route requests of the specified user agent to the server group for processing.

*SVRGROUP.UserAgentRegExp Setting

```
*SVRGROUP
jsvg      SVRTYPE = JSV, UserAgentRegExp = "(Firefox|Opera|Chrome|Safari)"
jsvg2     SVRTYPE = JSV, UserAgentRegExp = "W hale"

*SERVER
MyGroup   SVGNAME = jsvg, MinProc = 5, MaxProc = 10
MyGroup2  SVGNAME = jsvg2, MinProc = 5, MaxProc = 10
```


- Related issue: [IMS-136851](#), [IMS-139916](#)

4.1.9. DynamicServerAddress As REVERSE_PROXY.Options

- Added this option to allow DNS resolution attempts when the ServerAddress set in the Reverse_Proxy section is modified dynamically.

DynamicServerAddress As *REVERSE_PROXY.Options

```
*REVERSE_PROXY
jsp_url
ReverseProxyGroupName="jeus_rpg",
ServerAddress = "192.168.1.1:5580",
Options = "DynamicServerAddress"
```

- Related issue: [IMS-138268](#)

4.1.10. JEUS WebSocket Selector

- Added selector support to use WebSocket between WebtoB and JEUS without using reverse proxy.

To use WebSocket, you can use the WSProc setting in the SERVER section to obtain a WebSocket connection.

*SERVER.WSProc Setting

```
*SERVER
MyGroup      SVGNAME = jsvgl, MinProc = 10, MaxProc = 20, WSProc = 1
```



This function is supported in JEUS 8 Fix#2 and later versions.

4.1.11. SSL.SSLServerCipherPref

- This is similar to Apache SSLHonorCipherOrder or nginx ssl_prefer_server_ciphers. Added this setting to use the preferences defined in RequiredCipher.

*SSL.SSLServerCipherPref Setting

```
*SSL
ssl      CertificateFile = "$(WEBTOBDIR)/ssl/server.crt",
CertificateKeyFile = "$(WEBTOBDIR)/ssl/server.key",
RequiredCiphers = "ECDHE-RSA-AES128-GCM-SHA256:AES128-SHA256",
PassPhraseDialog="exec:$(WEBTOBDIR)/ssl/pass.sh",
SSLServerCipherPref = Y
```

- Related issue: [IMS-143514](#)

4.1.12. Trial License

- Added a trial license with 5 user limit for use with JEUS.
- You can use the trial license with the WebtoB 5 Fix#2 Installer.

4.1.13. NODE.UpperDirRestrict

- Added this setting to restrict access to the parent directory in addition to the existing method of using URL Rewrite. (Default value: N)

If UpperDirRestrict is set to Y and the request URI contains a '/', the server returns a "403 Forbidden" response.

*NODE.UpperDirRestrict Setting

```
*NODE
webtob      WEBTOBDIR = "/home/webtob5",
            SHMKEY = 54800,
            UpperDirRestrict = Y
```

- Related issue: [IMS-125134](#)

4.1.14. *REVERSE_PROXY(GROUP).AccessName

- Added this setting to control access to a specific IP bandwidth in the *REVERSE_PROXY section.

*REVERSEPROXY(GROUP).AccessName Setting

```
*REVERSE_PROXY
jsp_url
            ReverseProxyGroupName="jeus_rpg",
            ServerAddress = "192.168.1.1:5580",
            AccessName = access1

*ACCESS
access1      Order = "allow,deny",
            Allow = "192.168.0.0/255.255.0.0"
```

- Related issue: [IMS-149202](#)

4.2. Updated Functions

4.2.1. Added "%A" Field to Access Log Format

- You can use the "%A" field to specify a server IP.

"%A" Field in Access Log Format

```
*LOGGING
log1      Format = "%h %A %l %u %t \"%r\" %s %b",
          FileName = "C:/TmaxSoft/WebtoB5/log/access.log",
          Option = "sync"
```

- Related issue: [IMS-121596](#)

4.2.2. Added AllServers Option to SERVER.Options

- Added this setting to allow FILTERS process to perform filtering on HTMLS (HTML) requests whereas only JEUS (JSV) requests were processed by FILTERS before.

AllServers As *SERVER(filters).Options

```
*FILTER
sm_filter RealPath = "/home/webtob5/config/filter/wbSmISAPI.so"

*SVRGROUP
filterg SVRTYPE=filter, filter="sm_filter"

*SERVER
filters SVGNAME="filterg", Minproc=1, Maxproc=40, Options="AllServers"
```

- Related issue: [IMS-121825](#)

4.2.3. Considering Threshold when Loading Balancing Requests from JEUS

- WebtoB uses RR method to distribute requests from JEUS. Now it first routes requests to MSs with the number of running threads below its threshold limit.

Added threshold Column to the Result of wsadmin > st -j

```
$>wsadmin
--- Welcome to WebtoB Admin (Type "quit" to leave) ---

$$13 qpsx1 (wsadm) [2017-05-25T10:50:23]: st -j
HTH 0(18696): RDY

-----
svr_name  jengineno  threshold  cons    reqs    count    avg    jengineid
-----
MyGroup   0           -          10     0       0       0.0000
amV1c19kb21haW4vc2VydmVyMQ==(jeus_domain/server1)
```

- Related issue: [IMS-129440](#), [IMS-131069](#)

4.2.4. Kill Unresponsive FILTERS Process

- HTH now kills an unresponsive FILTERS process that has timed out after client has been disconnected.
- Related issue: [IMS-136392](#)

4.2.5. Added NODE.CheckUrlJsvExcept

- It *NODE.CheckUrlJsvExcept is set to Y, CheckURL setting is disabled on requests sent to JEUS.

*NODE.CheckUrlJsvExcept Setting

```
*NODE
webtob      WEBTOBDIR = "/home/webtob5",
            SHMKEY = 54800,
            CheckURL = Y,
            CheckURLTo = "euc-kr",
            CheckURLFrom = "utf-8",
            CheckUrlJsvExcept = Y
```

- Related issue: [IMS-139327](#)

4.2.6. Removed 2GB Limit for PUT Method Requests

- The Content-Length limit of 2GB (INT_MAX) has been removed for PUT method requests.

4.2.7. Added Dual SSL Authentication

- WebtoB now supports dual SSL certificates (ecdhe-rsa and ecdhe-ecdsa).

You can specify multiple certificates as *SSL.CertificateFile and CertificateKeyFile pairs separated by a comma (,).

*SSL.CertificateFile and CertificateKeyFile Settings

```
*SSL
ssl1      CertificateFile = "$ (WEBTOBDIR)/ssl/server.crt,$ (WEBTOBDIR)/ssl/server-ecc.crt",
          CertificateKeyFile = "$ (WEBTOBDIR)/ssl/server.key, $ (WEBTOBDIR)/ssl/server-
ecc.key"
```

- Related issue: [IMS-152131](#)

4.2.8. Added DNS Resolution Settings in REVERSE_PROXY

- Added settings to handle delays during DNS resolution when *REVERSE_PROXY.Options is set to "DynamicServerAddress".

*ReverseProxy.ConnectRetryCount sets the DNS resolution retry count when the TCP connection to the server fails, and *ReverseProxy.ConnectTimeout sets the TCP connection timeout for reconnecting.

*ReverseProxy.ConnectRetryCount and ConnectTimeout Settings

```
*REVERSE_PROXY
jsp_url
    ReverseProxyGroupName="jeus_rpg",
    ServerAddress = "192.168.1.1:5580",
    Options = "DynamicServerAddress",
    ConnectRetryCount = 10,
    ConnectTimeout = 5,
```

- Related issue: [IMS-162352](#)

4.2.9. Added *NODE.CheckPingTimeoutStatus

- Added this setting to override the default status code when *SERVER.RequestLevelPing fails.

You can set *NODE.CheckPingTimeoutStatus to 512 to override the default error code (503) for a failed RequestLevelPing.

*NODE.CheckPingTimeoutStatus Setting

```
*NODE
webtob    WEBTOBDIR = "/home/webtob5",
          SHMKEY = 54800,
          CheckPingTimeoutStatus = 512

*SERVER
MyGroup   SVGNAME = jsvg, MinProc = 30, MaxProc = 30, RequestLevelPing=Y
```

- Related issue: [IMS-162786](#)

4.2.10. Added TCPGW Monitoring Command

- You can use 'wsadmin > st -tcpgw' to display the current connection information in addition to 'wsadmin > ci'.

wsadmin > st -tcpgw Command

```
$>wsadmin
--- Welcome to WebtoB Admin (Type "quit" to leave) ---

$$10 tmaxsoft (wsadm) [2018-07-20T20:43:29]: st -tcpgw s*
```

```
-----  
hth (tcpgwi)tcpgwname count avg cons remote_ipaddr:port  
-----
```

```
0 ( 1/ 0) sw_jeus2 0 0.0000 0 192.168.1.14:18088  
0 ( 1/ 1) sw_jeus2 0 0.0000 0 192.168.1.14:28088  
0 ( 1/ 2) sw_jeus2 0 0.0000 0 192.168.1.14:38088  
0 ( 1/ 3) sw_jeus2 0 0.0000 0 192.168.1.14:48088  
0 ( 1/ 4) sw_jeus2 0 0.0000 0 192.168.1.14:58088
```

- Related issue: [IMS-167446](#)

4.3. Changed Functions

4.3.1. WBSL Version Upgrade

- WBSL version has been changed from WBSL 2.3.0_B0 to WBSL 2.3.1_B2.

```
$>wssl version  
WBSL 2.3.1 B2 30 Mar 2018
```

4.3.2. Changed Reverse Proxy Option Processing Method

- Changed how WebtoB responds to a request for an unsupported method in *NODE(*VHOST).Method when using reverse proxy.
- Related issue: [IMS-120109](#)

4.3.3. Responding with ERRORDOCUMENT URL for a 405 Response

- When the same method request comes in after the previous method request is redirected to 307, the second request is now processed as a GET request. If the request URL is same as the ERRORDOCUMENT URL, the ERRORDOCUMENT URL is returned instead of 405.
- Related issue: [IMS-120109](#)

4.3.4. Changed the Maximum Length of *Node.NodeName from 32 to 128

- The length limit is increased to 128 to accommodate using a hostname on cloud VM as the node name.
- Related issue: [IMS-124789](#)

4.3.5. Deleting Stat Data After a Cloud Scale In

- When using *DOMAIN.CloudDasAddress and all connections between an MS and WebtoB are closed (cloud scaled in), its jengineid(no) is removed from the stats returned by 'wsadmin> st -j'.
- Related issue: [IMS-124997](#)

4.3.6. Changed the Maximum Length of JENGINEID from 64 to 128

- The length limit is increased to 128 to accommodate encrypted server names.
- Related issue: [IMS-132832](#)

4.3.7. Changed the Maximum Length of REVERSE_PROXY.ServerAddress from 48 to 96

- The length limit is increased to 96 to prevent wscfl failure when a long ELB domain name is set to *REVERSEPROXY.ServerAddress.
- Related issue: [IMS-137224](#)

4.3.8. Changed Default Password Encryption Method for wsmkpw

- Changed the default encryption method to MD5 with no character length limit when creating a password using wsmkpw. The previous default encryption method, CRYPT, was also changed to only accept up to 8 characters instead of truncating passwords that exceeds the limit.
- Related issue: [IMS-150340](#)

4.3.9. Prevent Incrementing aq_count for RequestLevelPing Request

- RequestLevelPing requests are no longer counted in aq_count so that the aq_count returned by 'wsadmin > st -s' includes only requests that are actually queued.
- Related issue: [IMS-156689](#)

4.3.10. Closing Server Connection for Invalid WJP Header Message Length

- To prevent HTH from restarting unexpectedly, WebtoB now closes the server connection when a request header from JEUS contains an invalid message length.
- Related issue: [IMS-153787](#)

4.3.11. Gracefully Dropping Invalid Messages from JEUS

- WebtoB now gracefully drops invalid messages before closing the connection.
- Related issue: [IMS-117370](#)

4.3.12. Changed webtob.pid File Permission to 640

- The webtob.pid file created when starting WebtoB is now created with 640 instead of 666 permission when the file is set to IPCPERM 0777.
- Related issue: [IMS-162827](#)

4.4. Bug Patches

4.4.1. Fix for the Failure to Process an SSL Pending Pipelined Request

- Fixed the issue of the buffer being freed after a processing a request when the next request is a pending pipelined request from an SSL client connection.

4.4.2. Fix for JSV Connection Abnormally Terminating During Request Processing

- Fixed the issue of pipelined SSL bug where HTH shuts down when JSV connection is abnormally terminated during SSL processing for a JEUS request.

4.4.3. Fix for Abnormal Termination of JSV Connection After WebtoB Scale Out

- Fixed the issue of existing JSV connection being abnormally terminated after a WebtoB scale out in the cloud.
- Related issue: [IMS-124997](#)

4.4.4. Fix for a Core Dump or HTH Shutting Down While Using Reverse Proxy

- Fixed the issue of the reverse proxy server connection not being cleared when a request error returns a 400 error. This happens because a large message body that is sent via reverse proxy has chunked data that is not properly terminated by CRLF.

- Related issue: [IMS-129710](#)

4.4.5. Fix for TCGW SSL Bug

- Fixed the issue of incorrect processing of *SSL setting in *TCGW.
- Related issue: [IMS-132851](#)

4.4.6. Fix for Memory Leak Caused by Response Header Filter

- Fixed the issue of a memory leak caused by using the response header filter for a POST request with ISAPI.
- Related issue: [IMS-133609](#)

4.4.7. Fix for Chunked Data Processing Bug with Reverse Proxy

- Fixed the issue of broken chunk offset when flow control is needed. This happens when processing a large sized chunked message via reverse proxy and the chunks are coming in faster than being sent to the backend server.
- Related issue: [IMS-136341](#)

4.4.8. Fix for Excluding HEADERS When Using URLRewrite

- Fixed the issue of *HEADERS setting being ignored when redirecting via URLRewrite.
- Related issue: [IMS-138490](#)

4.4.9. Fix for Invalid Input Processing Bug for wsdwn

- Fixed the issue of wsdwn being terminated without an error message when an invalid input, such as Y or N, is entered.

4.4.10. Fix for Bug when Response Header Uses LF(\n) as Newline Character

- Fixed the issue so that response header can be processed using CRLF(\r\n) or LF(\n) as a newline character.
- Related issue: [IMS-139916](#)

4.4.11. Fix for Server Request to a Downed Server via TCGW

- Fixed the validity checking logic in socket (fd) when connection to *TCGW.ServerAddress fails or times out.
- Related issue: [IMS-138818](#)

4.4.12. Fix for Compiling Invalid Environment File

- Fixed the issue of wscfl normally compiling an environment file with an invalid input, such as *NODE.Port = 0.
- Related issue: [IMS-140277](#)

4.4.13. Fix for Reverse Proxy Failure when No Default JSV Server is Set

- Fixed the issue of reverse proxy failing and responding with 503 error when a request is sent to a vhost with no default JSV server set.
- Related issue: [IMS-140087](#)

4.4.14. Fix for Unwanted Output of FD Size

- Fixed the issue of hth -v and wsboot -v displaying the FD size as 8192.
- Related issue: [IMS-153001](#)

4.4.15. Fix for Access Log FD Not Closing when AccessLogThread is Enabled

- Fixed the issue of access log FD not closing when there are no requests for an HTH and *HTH_THREAD.AccessLogThread is set to Y.
- Related issue: [IMS-143449](#)

4.4.16. Fix for 0 Code Recorded in Access Log when Parsing LF(\n) from Response Header

- Fixed the issue of an error that occurs when parsing the newline character, LF(\n), from the response header. This causes the server to fail to parse the response code from the response status line and to record a 0 in the access log.
- Related issue: [IMS-143445](#)

4.4.17. Fix for Connection Closing During POST Request Redirection

- Fixed the issue so that the filter connection is maintained after a 302 redirect to process a POST request body. WebtoB now receives and dumps the request body, and closes only the client connection while maintaining the filter connection.
- Related issue: [IMS-143843](#)

4.4.18. Fix for WebSocket.send() Bug

- Fixed the issue of websocket flag being reset after WebSocket upgrade via reverse proxy in WebtoB 5.
- Related issue: [IMS-148638](#)

4.4.19. Fix for HTH Shutting Down when Using RequestLevelPing

- Fixed the issue of HTH shutting down unexpectedly after reconnecting to JEUS to process the previous request when using RequestLevelPing. This happens when WebtoB closes the client and JSV connections because no pong is received for a ping request.
- Related issue: [IMS-148767](#)

4.4.20. Fix for SSL Initialize Failure when SSL is Set Only in *TCPGW

- Fixed the issue of failing to initialize SSL when it is only set in *TCPGW. After client completes SSL handshake, it now connects to the backend server.

4.4.21. Fix for Bug that Occurs when Using URLRewrite and ReverseProxy

- Fixed the issue of 504 response code that occurs when using URLRewrite and ReverseProxy together due to a buffer management bug in rewriting the HTTP header.
- Related issue: [IMS-150379](#)

4.4.22. Fix for Using StdEnvVars as *SSL.Options with ReverseProxyGroup

- Fixed the issue of stdEnvVars setting not working when using ReverseProxyGroup. This is a side effect from the fix for reverse proxy failure when no default JSV server is set ([4.13](#)).
- Related issue: [IMS-150532](#)

4.4.23. Fix for Parsing '\$' Incorrectly in Option Value

- Fixed the issue of parsing '\$' only as the start of an environment variable so that '\$' can be parsed correctly when it is used within RegExp or SetHostHeader value.
- Related issue: [IMS-152421](#)

4.4.24. Fix for HTH Shutting Down During JSV Compression

- Fixed the issue of HTH shutting down unexpectedly while executing JSV compression.
- Related issue: [IMS-153164](#)

4.4.25. Fix for FILTERS Process Shutting Down During Startup

- Fixed the issue of FILTERS process shutting down unexpectedly during WebtoB startup. This only happens in WebtoB 5.
- Related issue: [IMS-153986](#)

4.4.26. Fix for HTH Shutting Down While Processing Indexname Page

- Fixed the issue of core dump caused by an undeleted buffer pointer from the previous request remaining. This happens when an SSL request is processed by appending a slash (/) after setting Indexname="index.php", and then sending the same request via NonSSL.
- Related issue: [IMS-152091](#)

4.4.27. Fix for 'wsadmin > restat' Not Resetting HTMLS Count

- Fixed the issue of 'wsadmin > restat -a' not resetting the htmls count, which is displayed via 'wsadmin > st -s', and the thread information.
- Related issue: [IMS-156670](#)

4.4.28. Fix for HTH Shutting Down When JEUS Attempts to Reconnect Continuously

- Fixed the issue of a bug caused by creating too many connection objects than allocated in shared memory leading to an index overflow.
- Related issue: [IMS-155395](#)

4.4.29. Fix for patchinfo Error

- Added fixes from WebtoB 4.1.9.1 that are missing in WebtoB 5, and corrected spelling errors in patchinfo.
- Related issue: [IMS-160414](#)

4.4.30. Fix for Bug that Occurs when Using URLRewrite for a Vhost set in REVERSE_PROXY

- Fixed the issue so that the reverse proxy setting is used instead of URI matching when URLRewrite enabled vhost is set in *ReverseProxy. This is a side effect from the fix for IMS-140087.
- Related issue: [IMS-147271](#)

4.4.31. Fix for EXPIRES Setting Not Working w/o SVRGROUP Setting

- Fixed the issue so that no HTML server group needs to be set in *SVRGROUP to use the *EXPIRES setting.
- Related issue: [IMS-164680](#)

5. WebtoB 5 Fix#1

This chapter describes the changes and additions in functionality and bug patches in WebtoB 5 Fix#1.

5.1. New Functions

5.1.1. RPAFHeader in the NODE Section

- If *NODE.RPAFHeader is set to "X-Forwarded-For", a remote IP address that has been modified can be set to a host IP address, not an IP address of a proxy server. A remote IP address in an HTTP request that is sent to WebtoB can be modified after being processed by a proxy server.

*NODE.RPAFHeader Configuration

```
*NODE
webtob    WEBTOBDIR = "/home/webtob_4191",
          SHMKEY = 54800,
          RPAFHeader = "X-Forwarded-For"
```

- Related Issue: [IMS-108918](#)

5.1.2. USERLOGFORMAT Section

- The USERLOGFORMAT section has been added so that a common log format can be set.

A log format was set for each VHOST even through multiple VHOSTs use the same format. Now, a user can set a common log format in the USERLOGFORMAT. The log format can be used in the LOGGING section.

*USERLOGFORMAT Configuration

```
*LOGGING
log1      Format = "format1", FileName = "C:/TmaxSoft/WebtoB4.1.9.1/log/access.log",
          Option = "sync"
          ...
*USERLOGFORMAT
format1   Format = "%h %l %u %t \"%r\" %s %b"
```

- Related Issue: [IMS-108609](#)

5.1.3. TimeoutStatus in the NODE Section

- *NODE.TimeoutStatus has been added to modify the HTTP status code if a timeout occurs. The 500 error occurred when a timeout occurred. Now, the HTTP status code will be modified to a code set in *NODE.TimeoutStatus.

*NODE.TimeoutStatus Configuration

```
*NODE
webtob    WEBTOBDIR = "/home/webtob_4191",
          SHMKEY = 54800,
          Timeout = 300,
          TimeoutStatus = 512           # 500 (511-599)
```

- Related Issue: [IMS-110816](#)

5.1.4. CacheMaxCompressSize in the NODE Section

- *NODE.CacheMaxCompressSize has been added to cache a compressed reply in memory.

*NODE.CacheMaxCompressSize Configuration

```
*NODE
webtob    WEBTOBDIR = "/home/webtob_4191",
          SHMKEY = 54800,
          CacheMaxCompressSize = 8192   # 0 (0-)
```

- Related Issue: [IMS-111775](#)

5.1.5. Disk Caching

- Static files can be cached in a local disk. When service resources such as NAS are used as network devices, static files are stored in memory, but memory is insufficient.

*DISK_CACHE Configuration

```
*NODE
webtob    WEBTOBDIR = "/home/webtob_4191",
          SHMKEY = 54800,
          DiskCache = dc1

*DISK_CACHE
dc1
  CacheRoot = "cache/node",
  DirLevels = 5,
  MinFileSize = 8193,
  MaxFileSize = 100000000,
  RefreshTime = 3600
```

- Related Issue: [IMS-105985](#)

5.1.6. Expiration Date for the Cloud License

- The expiration date for the Cloud license is now checked.

5.2. Updated Functions

5.2.1. WebAdmin Enhancements

- WebAdmin has been improved for user convenience.

The following functionalities are now enabled: dynamic configuration and control, view for the differences between before and after a configuration modification, and automatic update for a set time interval. For more information, refer to *WebtoB WebAdmin Guide*.

5.2.2. "%S" in the Accesslog Format

- The "%S" setting has been added to record HTTP or HTTPS according to a connection.

"%S" Configuration in Accesslog Format

```
*LOGGING
log1      Format = "%h %S %l %u %t \"%r\" %s %b",
          FileName = "C:/TmaxSoft/WebtoB4.1.9.1/log/access.log",
          Option = "sync"
```

- Related Issue: [IMS-110768](#)

5.2.3. Server Name in the URI Section

- A server name that is set in *URI.SvrName can be modified dynamically with the set wsadmin command.

Dynamically Modifying *URI.SvrName

```
$>wsadmin
--- Welcome to WebtoB Admin (Type "quit" to leave) ---

$$1 tmaxs4 (wsadm) [2016/08/24:18:24:10]: set -u uri1 svrname MyGroup2      # set -u [uri name]
svrname [ServerName]
new value (MyGroup2) is set for section = URI, name = uri1, fld = svrname

$$2 tmaxs4 (wsadm) [2016/08/24:18:24:23]: cfg -u
  URI(0): Name = uri1,
         URI = "/jsvtest/",
         SvrType = JSV,
         SvrName = MyGroup2,
         SCGI = N,
         FCGI = N,
         Match = prefix,
         Priority(pr) = 50,
         GotoEXT = N,
         StopIfNoEXT = Y,
         Ext = ""

  URI(1): Name = uri2,
```



```
URI = "/jsvtest2/",  
SvrType = JSV,  
SvrName = MyGroup,  
SCGI = N,  
FCGI = N,  
Match = prefix,  
Priority(pr) = 50,  
GotoEXT = N,  
StopIfNoEXT = Y,  
Ext = ""
```

- Related Issue: [IMS-114135](#)

5.2.4. AUTHENT and Other Sections in wswebadmin

- The AUTHENT, ERRORDOCUMENT, EXPIRES, DIRINDEX, HEADERS, FILTER, and PRECEDING_COMMAND sections have been added in wswebadmin to support WebAdmin. For more information, refer to *WebtoB Administrator's Guide*.

5.2.5. Memory Optimization in HTH Caching

- The default maximum size of the URLs that are dynamically allocated to memory with malloc() is 2 KB. Memory usage increases as the number of URLs that are cached increases. To decrease memory usage for cached requests and replies, the memory optimization function has been added.
- Related Issue: [IMS-114546](#)

5.3. Changed Functions

5.3.1. WBSSL Upgraded

- WBSSL has been upgraded from "WBSSL 2.2.2" to "WBSSL 2.3.0_B0".

```
$>wbssl version  
WBSSL 2.3.0 B0 20 May 2016
```

- Related Issue: [IMS-106426](#)

5.3.2. Recorded Data When Using "%c" Accesslog Format

- When the "%c" accesslog format is used, "hc" or "hm" was recorded. The recorded data has been updated as follows:

- Before update

```
"hth cache" -> "hc": A reply is sent from HTH cache.  
"hth htmls" -> "hm": A reply is sent from internal htmls.
```

- After update

```
"mem cache" -> "hc": A reply is sent from internal cache.  
"disk cache" -> "dc": A reply is sent from disk cache.  
"sendfile" -> "sf": A reply is sent from Sendfile  
"sendfile/disk cache" -> "sf/dc": A reply is sent from Sendfile and sent from disk cache.  
"remote" -> "hm": A reply is sent remotely.
```

5.3.3. Expat Library Name

- expat.lib(dll) under lib/(bin) was used as an XML parser library to support WebDAV. The library has been renamed to wbexpat because the library name can be in conflict if another middleware uses a library with the same name. (expat.lib is used and it is not renamed in Windows.)
- Related Issue: [IMS-113202](#)

5.4. Bug Patches

5.4.1. Fix for the Filters Processes When Adding a Specific Header to a Request Header

- Fixed the issue so that a Filters process is not shut down. A Filters process can be shut down if a request header does not exist. A request header does not exist if a client ends a connection when a Filters process adds a specific header to the request header.

5.4.2. Fix for the FlowControl Failure When ReverseProxy is Used as a Web Socket

- Fixed the issue of the FlowControl failure where reading data is pending and the data is no longer read when the speed of the client that sends data is faster than that of the server that reads the data if ReverseProxy is used as a web socket.
- Related Issue: [IMS-111061](#)

5.4.3. Fix for not Applying the Filters Process' Processing Results When a JSV Response is Compressed

- Fixed the issue so that the processing results of the filter process for set-cookie is applied when a JSV response is compressed.

5.4.4. Fix for the Issue that Occurred When Overwriting a File by Using the COPY Method

- Fixed the issue so that "Overwrite: T" is used by default when overwriting a file by using a WebDAV function even through there is no "Overwrite: T" request header.
- Related Issue: [IMS-112412](#)

5.4.5. Fix for the Issue that Occurred When Calling PROPFIND

- Fixed the issue so that 'directory' is shown even though a response is sent with /index.html when calling PROPFIND that ends with '/' during a test by using BitKinex, a WebDAV tool.
- Related Issue: [IMS-112412](#)

5.4.6. Fix for a Core Dump When Terminating a Filters Process

- Fixed the issue so that a core dump is not created when a Filters process is terminated with wsdwn.

5.4.7. Fix for a Core Dump or HTH Process Shut Down When Using a Reverse Proxy

- Fixed the issue so that a core dump is not created and an HTH process is not shut down when a reverse proxy's internal context is broken. Now the context validity is checked, and a server connection is ended when the context is invalid.
- Related Issue: [IMS-114156](#), [IMS-113270](#)

5.4.8. Fix for RPAFHeader = "X-Forwarded-For"

- Fixed the issue so that the *NODE.RPAFHeader = "X-Forwarded-For" setting is updated. The setting was not updated because multiple clients are recognized as a single client due to a proxy.
- Related Issue: [IMS-114804](#)

5.4.9. Fix for File Download

- Fixed the issue so that a file is downloaded successfully. Downloading a file failed (usually in a mobile device) when a pipelined request arrives before a previous pipelined request is processed completely.
- Related Issue: [IMS-115259](#)

6. WebtoB 5

This chapter describes the changes and additions in functionality and bug patches in WebtoB 5.

6.1. New Functions

6.1.1. HTH_THREAD Section

- **HTH_THREAD Section Added**

HTH_THREAD section has been added so that HTMLS is processed by HTH worker threads instead of the HTMLS process. Since HTMLS process is no longer used, the SERVER section configuration is now optional. The HTH_THREAD section must be configured and only once. For detailed configuration information, refer to *WebtoB Administrator's Guide*.

HTH_THREAD Configuration

```
*HTH_THREAD
hworker
    WorkerThreads = 8,
    SendfileThreads = 4,
    SendfileThreshold = 32768,
    AccessLogThread = Y
```



SendfileThreads and AccessLogThread items are not supported in Windows.

- **HTH_THREAD.HtmlsCompression**

The compression function is now handled by the worker thread instead of HTMLS.

Compression is performed when the response body size exceeds the HtmlsCompressionMinSize setting (newly added).

*HTH_THREAD.HtmlsCompression Configuration

```
*HTH_THREAD
hworker    ...
           HtmlsCompression="text/html",
           HtmlsCompressionMinSize = 1,
           ...
```

6.1.2. SERVER Options Setting

- This setting is used to send the original user sent request to a JSV server or another server process after being processed by the FILTERS process.

This setting can be used to consider that the request URL can be modified while the request is processed by the FILTERS process.

*SERVER.Options Configuration

```
*SERVER
MyGroup      SvgName = jsvg, MinProc = 1, MAXProc = 10,
              Options = "PassOriginalUriAfterFilters"
```

- Related Issue: [IMS-100812](#)

6.1.3. SVRGROUP HEADERS Setting

- The HEADERS setting was applied to the SERVER and NODE(VHOST) sections. From WebtoB 5 or later, a server can no longer be set as HTML type. Hence, the *SVRGROUP.Headers setting has been added to apply the HEADERS settings to specific HTML group.

*SVRGROUP.Headers Configuration

```
*SVRGROUP
htmlg      NODENAME = "tmax", SVRTYPE = HTML, Headers = "header1",
           ...
*HEADERS
header1    ACTION="AddRequest",
           FileName="ADDHEADER1",
           FieldValue="QMC_Test_Header1",
           RegExp="!html$",
           StatusCode=""
```

6.1.4. LOGLEVEL RotateBySeconds Setting

- The tracelog was created per process which was difficult to manage when the file size grew. Now the *LOGLEVEL.RotateBySeconds can be used to specify the interval to create an additional log file.

*LOGLEVEL.RotateBySeconds Configuration

```
*LOGLEVEL
.hth      Level = "trace",
          RotateBySeconds = 300 (default: 300)
          ...
```

6.1.5. PROXY_SSL CertificateChainFile Setting

- The CertificateChainFile setting has been added to the PROXY_SSL section to be able to create a chain. To authenticate the internal server certificate, the CertificateChainFile can be configured in the PROXY_SSL section as follows:

PROXY_SSL.CertificateChainFile Configuration

```
*PROXY_SSL
reverseSsl Verify=2,
            VerifyDepth=3,
            CertificateChainFile="$(WEBTOBDIR)/ssl/CHAIN.crt",
            CACertificateFile="$(WEBTOBDIR)/ssl/CA.crt",
            CertificateFile="$(WEBTOBDIR)/ssl/public.crt",
            CertificateKeyFile="$(WEBTOBDIR)/ssl/private.key",
            Protocols="-SSLv2, -SSLv3",
            RequiredCiphers = "HIGH:MEDIUM:!SSLv2:!PSK:!SRP:!ADH:!AECDH:!EXP:!RC4:!IDEA:!3DES"
```

- Related Issue: [IMS-107342](#)

6.1.6. Thread Settings and Statistics in wsadmin

- A command that displays HTH_Thread state and stats has been added to wsadmin (wswebadmin).

wsadmin > HTH_Thread Information Output Command

```
cfg -t : view HTH_THREAD properties
st -t : statistics of each HTH threads
st -T : statistics of HTH threads group
```

6.1.7. HTH Monitoring Function in WSM

- Alivecheck for HTH can be set with the newly added NHthChkTime setting that is used to restart HTH when there is no reply for two consecutive attempts.

*DOMAIN.NHthChkTime Configuration

```
*DOMAIN
...
NHthChkTime = 30, (default: 30)
...
```

6.1.8. Term License Check

- Add due date check for term licenses.

6.1.9. WebDAV Function

- Added the WebDAV (Web Distributed Authoring and Versioning) function.

Documents and files on the server can be edited and managed by adding methods in the NODE(VHOST) section by using extended HTTP protocol. WebtoB supports PUT, DELETE, COPY,

MOVE, MKCOL, PROPFIND methods. Excluding LOCK/UNLOCK and PROPPATCH, a method can be disabled. For more information, refer to [RFC-4918](#).

WebDAV Configuration

```
*VHOST
vhost1    ...
          Method = "GET, POST, HEAD, OPTIONS, PROPFIND, PUT, DELETE, MKCOL, COPY, MOVE"
          (default:"GET, POST, HEAD, OPTIONS")
          ...
```



This is only supported in the Enterprise Edition License.

- Related Issue: [IMS-82239](#)

6.1.10. CA SiteMinder Filter

- Added a module (so) to the FILTER section to integrate CA SiteMinder, an SSO solution, with the Policy Server and to authenticate and authorize users to access protected Web resources.

FILTER filters Configuration

```
*FILTER
sm_filter  RealPath = "${WEBTOBDIR}/config/filter/wbSmISAPI.so"

*SVRGROUP
htmlg     SVRTYPE = HTML
jspx     SVRTYPE = JSV
filterg   SVRTYPE = FILTER, Filter = "sm_filter"

*SERVER
MyGroup   SVGNAME =jspx, MinProc = 5, MaxProc = 10
filters   SVGNAME = filterg, MinProc = 1, MaxProc = 20

*URI
testuri   Uri= "/testuri/", SvrType = JSV

*EXT
fcc       MimeType = "text/html", SvrType = JSV
```



This is only supported in the Enterprise Edition License.

- Related Issue: [IMS-92139](#)

6.1.11. TLS Extension - SNI

- In previous versions, split ports or multi-domain certificates were used to service 2 certificates

through a single port. SNI function, an extended TLS function, has been added to enable servicing multiple domains through a single port.

Servicing 2 Domains via a Single Port

```
*VHOST
vhost1      DOCROOT    = "C:/TmaxSoft/WebtoB5.0/vdocs1",
            NODENAME   = "tmax",
            HOSTNAME   = "192.168.0.0",
            IndexName  = "index.jsp",
            ServiceOrder = "ext,uri",
            #KeepAlive = N,
            PORT       = "7410",
            SSLFLAG    = Y,
            SSLNAME    = "ssl1"
vhost2      DOCROOT    = "C:/TmaxSoft/WebtoB5.0/vdocs1",
            NODENAME   = "tmax",
            HOSTNAME   = "192.168.0.0",
            HostAlias  = "vhost2.tmax.co.kr",
            IndexName  = "index.jsp",
            ServiceOrder = "ext,uri",
            PORT       = "7410",
            SSLFLAG    = Y,
            SSLNAME    = "ssl2"
            ...

*SSL
ssl1        CertificateFile = "C:/TmaxSoft/WebtoB5.0/ssl/server.crt",
            CertificateKeyFile = "C:/TmaxSoft/WebtoB5.0/ssl/server.key",
            CertificateChainFile = "C:/TmaxSoft/WebtoB5.0/ssl/chain.crt",
            RequiredCiphers = "AES256-SHA",
            PassPhraseDialog="exec:C:/TmaxSoft/WebtoB5.0/ssl/pass.bat"
ssl2        CertificateFile = "C:/TmaxSoft/WebtoB5.0/ssl/server2.crt",
            CertificateKeyFile = "C:/TmaxSoft/WebtoB5.0/ssl/server2.key",
            CertificateChainFile = "C:/TmaxSoft/WebtoB5.0/ssl/chan2.crt",
            RequiredCiphers = "RC4-MD5",
            PassPhraseDialog="exec:C:/TmaxSoft/WebtoB5.0/ssl/pass.bat"
```

Testing Method

```
>wbssl s_client -connect 192.168.0.0:7410 -servername vhost2.tmax.co.kr
RESULT> CONNECTED(00000160)
...
New, TLSv1/SSLv3, Cipher is RC4-MD5
Server public key is 1024 bit
Secure Renegotiation IS supported
Compression: NONE
Expansion: NONE
SSL-Session:
    Protocol  : TLSv1.2
    Cipher    : RC4-MD5
```

6.1.12. Embedded Servlet Engine Version Upgrade

- The Embedded Servlet Engine has been upgraded from JEUS 6 Fix#9 to JEUS 7 Fix#4.

6.1.13. Added Engine Name to the Register Message from JEUS

- The command, "wsadmin > st -j", displays the jengineid as its base64 decoded value or the jenginename* received from JEUS.



This is supported in JEUS 8.

6.1.14. WSM Termination Triggers Windows Service Termination

- Windows service performs alive checks for WSM process at 30 second intervals, and executes wsdown and terminates the service when WSM is unresponsive.
- Related Issue: [IMS-107294](#)

6.1.15. Response Size Based Compression

- Compression is performed when the Content-Length (or file size) exceeds the *SERVER.CompressionMinSize setting, if specified.

*SERVER.CompressionMinSize Configuration

```
*SERVER
cgi      SvgName = cgig, MinProc = 2, MaxProc = 10,
        CompressionMinSize = 1, Compression = "text/html"
```



This is the same as the *HTH_THREAD.HtmlsCompressionMinSize setting.

- Related Issue: [IMS-107724](#)

6.1.16. Additional AccessLog Format Settings

- Added common and combined formats specified with aliases in addition to the default formats in the AccessLog File Format configuration. For detailed configuration information, refer to *WebtoB Administrator's Guide*.

Aliases for AccessLog File Format

```
default: "%h %t \"%r\" %s %b %D"
common: "%h %l %u %t \"%r\" %s %b"
combined: "%h %l %u %t \"%r\" %s %b \"%{Referer}i\" \"%{User-Agent}i\""
```

- Related Issue: [IMS-100553](#)

6.2. Changed Functions

6.2.1. Log Format Update

- Unified the time log level and other items of syslog and errorlog to Tmax standard log format.

The following is an example of an error log.

Error Log

```
[2016-03-22T13:33:25] [CLIENT(192.168.0.0)] [E] [ERR-00122] Worker error. {DELETE, err=[ERR-05065] A request URI does not exist., realpath=C:/TmaxSoft/WebtoB5.0/docs/webdav_dir/copy_method/non_test.txt}
```

6.2.2. Removal of Unnecessary Settings

- The following unnecessary settings, including MaxPersistentServerConnections, have been removed from WebtoB 5.

Removed Settings

```
*NODE.MaxReverseProxyKeepAliveServerConnections  
*NODE.ReverseProxyRequestSlackBufferSize  
*NODE.AccessLogThroughWSM  
*NODE.UseInternalHtmls  
*NODE.InternalHtmlsReadSize  
*NODE.InternalHtmlsMaxCacheSize  
*NODE.InternalHtmlsAsyncReadThreads  
*NODE.InternalHtmlsAsyncReadThreshold  
*NODE.InternalHtmlsSendFileThreshold
```

6.2.3. Filter Processing Update

- Since HTMLS process is no longer used, the Filter processing performed by HTMLS before static file processing is now handled by the FILTERS process.

6.2.4. Changed Default RequiredCiphers Value for SSL

- The default value for RequiredCiphers has been changed as follows:
 - Before

```
RequiredCiphers = "HIGH:MEDIUM:!SSLv2:!PSK:!SRP:!ADH:!AECDH:!EXP"
```

- After

```
RequiredCiphers = "HIGH:MEDIUM:!SSLv2:!PSK:!SRP:!ADH:!AECDH:!EXP:!RC4:!IDEA:!3DES"
```

- Related Issue: [IMS-103369](#)

6.2.5. Changed Max FD Value

- The FD value has been changed to increase the maximum number of concurrent clients that can be handled by a single HTH process.

Changed FD Value

```
* Unix 8k(8192) -> 16k(16384)
* Window 2k(2048) -> 4k(4096)
```

6.2.6. WBSSL Version Upgrade

- WBSSL has been upgraded from "WBSSL 2.2.2" to "WBSSL 2.2.4_B4".

The upgraded version includes a replacement library for OpenSSL with an enhanced SSL/TLS communication protocol to help resolve security vulnerabilities in OpenSSL.

WBSSL Version Upgrade

```
$>wbssl version
WBSSL 2.2.4 B4 29 Mar 2016
```

- Related Issue: [IMS-106426](#)

6.2.7. Changed Content-Length Response Header Variable to 64bit for Reverse Proxy

- When using reverse proxy, since the Content-Length Response Header is parsed and saved to 4bytes variables, an error occurs when the Content-Length exceeds 2GB which is incorrectly recognized as a negative value.

- Related Issue: [IMS-107204](#)

6.3. Bug Patches

6.3.1. Fix for Core Dump during Pipeline Request Processing in Reverse Proxy

- Fixed the issue so that the client remains in the RUN state while connecting to the backend server for frontend processing of a pipelined client request.
- Related Issue: [IMS-102899](#)

6.3.2. Fix for Increasing CPU Usage for a Large Request with a Non-HTML IndexName

- Fixed the issue that occurs when the *NODE(VHOST).IndexName is set to index.php and a "POST/" request with a large body is received. This causes repeated waits to occur because the redirect message cannot be saved in the buffer.
- Related Issue: [IMS-106208](#)

6.3.3. libexpat.lib Update

- Fixed the issue of wsboot failure caused by the XML Parser Library libexpat.lib(dll) that has been added below lib/(bin) for WebDAV support. Updated libexpat.lib(dll) for Windows x86 and AIX x32.
- Related Issue: [IMS-105404](#)

6.3.4. Fix for PHPS/CGIS Core Dump When Adding 'Expires' to Response Header

- Fixed the issue of a core dump that occurs while receiving the request uri to create an 'Expires' Response header.
- Related Issue: [IMS-105697](#)

6.3.5. Fix for the 0 Status Code in the Accesslog When Filter Generates a 302 Response

- Fixed the issue of the Response status code of the Accesslog being set to 0 while the client successfully receives the 302 response when the Filters process generates a 302 response.

6.3.6. Fix for Core Dump When Terminating a Filters Process

- Fixed the issue of a core dump that occurs when terminating a Filters process using wsdown.