



Technical Note Extended L7 Debug

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Introduction

Introduction

This document relates to additional logging capabilities that enable debug and client trace logging at a per-Virtual Service (VS) level. Currently, for this feature, only configuring using the Web User Interface (WUI) is supported, no Application Program Interface (API) functionality has been implemented.

Extended Debug WUI Options

Extended Debug WUI Options

The Extended L7 debug option allows additional logging capabilities that enables debug logging on a per-VS level and a further option to limit the logging by specifying the client IP address. All logs associated with this feature are recorded in the system messages file **messages.txt**.

Debug Options

Disable All Transparency	Disable Transparency
Enable L7 Debug Traces	Enable Traces
Enable Extended L7 Debug	Enable Extended Debug
Enable IRQ Pinning	Enable IRQ Pinning
Perform an l7adm	l7adm
Enable WAF Debug Logging	Enable Logging
Enable IRQ Balance	Enable IRQ Balance
Enable TSO	Enable TSO
Enable TCP SACK	Enable TCP SACK
Enable Layer 4 IPv6 Forwarding	<input checked="" type="checkbox"/>
Disable CLI VS Management	Disable CLI VS Management
GEO debugging	GEO Debug
Reset Statistic Counters	Reset Statistics
Flush OCSPD Cache	Flush Cache
Enable SSOMGR Debug Traces	Enable Traces
Flush SSO Authentication Cache	Flush SSO Cache
Linear SSO Logfiles	<input type="checkbox"/>
Start IPsec IKE Daemon	Start IPsec IKE Daemon
Perform an IPsec Status	IPsec Status
Enable IKE Debug Level Logs	Enable Logs
Kill LoadMaster (311739)	<input type="text"/> Kill LoadMaster
Enable DHCPv6 Client	<input type="checkbox"/>

Enable Extended L7 Debug

System Configuration > Logging Options > System Log Files > Debug Options

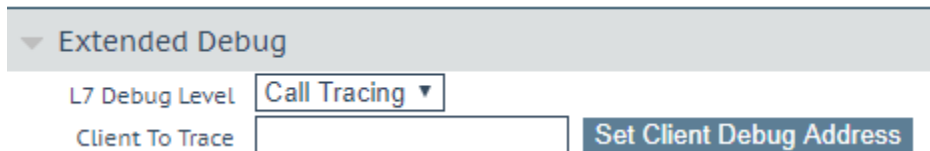
Enabling **Enable Extended L7 Debug** option may be needed when performing extensive testing.

Once the **Enable Extended L7 Debug** option is enabled, a **Process debug** button appears. Clicking **Process debug** displays the list of processes and the debug level.

The user has to sanitize the logs before providing them externally. Logs should only be enabled (debug level is set to 1) for debugging purposes and disabled (debug level is set to 0) immediately after. Logs should be removed from the LoadMaster as soon as possible when debugging is completed.

Note: Enabling Extended L7 Debug option can consume more resources and it is possible that some authorization parameters may be exposed. Only enable this option if recommended by Progress Kemp Support.

When extended debugging is enabled, an additional **Extended Debug** configuration item becomes available in the Virtual Service modify screen (**Virtual Services > View/Modify Services > Modify**) for all VSs. When using Sub-Virtual Services (SubVSs), the **Extended Debug** settings are also inherited by the SubVS, so that a single call can be logged in its entirety. It is also possible to enable debug on a single SubVS if required.



The screenshot shows the 'Extended Debug' configuration section. It includes a dropdown menu for 'L7 Debug Level' with 'Call Tracing' selected, a text input field for 'Client To Trace', and a button labeled 'Set Client Debug Address'.

When **Enable Extended L7 Debug** is set, the **Extended Debug** options are available when configuring or modifying a VS. The options available are:

- **L7 Debug Level:** There are currently four levels available; **No Debug**, **Call Tracing**, **Full Debug**, and **Full Debug + HTTP Headers**. **Call Tracing** is a basic level log that displays most relevant operations, while **Full Debug** displays all available debug logs, which is the same as the global setting of **Enable L7 Debug Traces** but on a per-VS level.

Note: By default, the **L7 Debug Level** is set to **No Debug** for all Virtual Services and SubVSs. To enable logging for a particular Virtual Service or SubVS, you must set the **L7 Debug Level** to **Call Tracing** or **Full Debug** in the **Extended Debug** section of the Virtual Service or SubVS modify screen.

CAUTION: Setting the **L7 Debug Level** to **Full Debug + HTTP Headers** may expose sensitive information.

- **Client To Trace:** It is also possible to limit the debug information even further by specifying a client IP address (you can specify an IPv4 or IPv6 address). If an address is specified, only connections coming from that specific client IP are logged/traced. This allows debugging capability from a single address.