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## Cascade Compatibility Matrix

**Introduction:** The Cascade product line includes a variety of appliances and software products, all of which can be configured to interoperate. Customer deployments often include multiple Cascade products and it is important to understand the compatibility requirements to obtain the maximum benefit from cross-product integration.

This document covers the following Cascade appliance based products:

- Profiler<sup>1</sup>
- Gateway
- Sensor
- Shark

It also includes the following software based products:

- Pilot
- Virtual Shark
- Profiler Virtual Edition
- Gateway Virtual Edition
- Sensor-VE
- Embedded Shark

**Compatibility Overview:** Riverbed strongly recommends that customers deploy matching software versions. Doing this ensures that there will not be any issues related to interoperation or compatibility. Riverbed fully tests and qualifies functionality between matching versions in order to prevent problems.

Due to time constraints, far less time is spent qualifying cross-version compatibility, and it is possible that problems might arise in mixed deployments. Moreover, there are known issues where some features fail to work correctly when non-matching versions are deployed. If non-matching versions are deployed and a known compatibility problem is discovered, Riverbed may determine that the issue will not be addressed

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<sup>1</sup> Throughout this document, "Profiler" refers to Express, Standard Profiler, and Enterprise Cluster.

and instead require the customer to install matching versions before investigating any problems.

In situations where several of the products are deployed but they aren't being used in an integrated fashion, then the compatibility guidelines do not fully apply. An example of this is a situation where Shark appliances are deployed independently of a Profiler at the same site. In this case, the Shark and Pilot versions must be compatible but Profiler does not have to be running a compatible version.

Alternatively, there might be cases where a variety of the products are used in conjunction with one another and it is necessary to carefully read and understand these compatibility requirements.

**Profiler Products General Guidelines:** In situations where the Profiler is deployed with Sensors and/or Gateways, the Profiler software version **must be** the same as or newer than the version installed on the other appliances. If the Profiler software version is one or more releases behind the Sensors and/or Gateways, features of the Profiler are known to not function properly. In most situations, this requirement is not onerous because customers want the latest Profiler features. Also, they often have more difficulty upgrading all of the Sensors and/or Gateways because there are typically more of these at a site.

**Shark/Pilot General Guidelines:** In all situations the version of Pilot **must be** the same as or newer than the version installed on all Shark systems with which Pilot will communicate. In most cases where there are new features in Pilot that the customer requires, the version of Shark appliance deployed must be the same as or newer than the version where the feature was introduced. Although this is not true of every Pilot feature, many features require co-operation between Pilot and Shark and an older version of Shark cannot suddenly provide support for newer features. In these situations, it is safer to deploy matching software versions.

**Version Numbering:** Cascade products follow this version numbering scheme:

#### **MM.mm.dd**

- **MM** – Major version number. The major version number is incremented infrequently and generally indicates substantial product changes. Typically these changes are incompatible with previous releases.
- **mm** – Minor version number. The minor version number is incremented more frequently when new product functionality is introduced. The changes in a minor release can also result in incompatibility with prior versions.
- **dd** – “Dot” version number. This number indicates a smaller release between major and minor releases. Typically, this only includes bug fixes and minor feature improvements but does not introduce any incompatibilities. For

example, Profiler versions 9.0.5 and 9.0.6 are considered equivalent from an interoperability point of view.

## Compatibility Details

**Product Version Compatibility:** This table lists the product versions by product where the software versions were extensively tested and released as being compatible. Installing the matching products from the same row of the matrix will result in full interoperability except where noted with N/A. Riverbed recommends that customers install matching versions from the same row of the table whenever possible. In situations where this is not possible, consult the detailed compatibility tables below for specific information on incompatibilities.

Release Date	Profiler	Sensor	Gateway	Express 460 <sup>2</sup>	Express 460 VE <sup>3</sup>	Sensor VE <sup>4</sup>	Profiler VE <sup>5</sup>	Gateway VE <sup>6</sup>	Shark	Pilot	Virtual Shark <sup>7</sup>	Embedded Shark <sup>8</sup>
April 2014	10.6.1	10.6.1	10.6.1	10.6.1	10.6.1	N/A	10.6.1	10.6.1	10.6.1	10.6 <sup>9</sup>	10.6.1	N/A
March 2014	10.6	10.6	10.6	10.6	10.6	N/A	10.6	10.6	10.6	10.6	10.6	N/A
October 2013	10.5	10.5	10.5	10.5	N/A	N/A	10.5	10.5	10.5	10.5	10.5	N/A
April 2014	10.0.8	10.0.8	10.0.8	10.0.8	N/A	10.0.8	10.0.8	10.0.8	10.0.7 <sub>10</sub>	10.0.7	10.0.7	N/A
July 2013	10.0.7	10.0.7	10.0.7	10.0.7	N/A	10.0.7	10.0.7	10.0.7	10.0.7	10.0.7	10.0.7	N/A
March 2013	N/A	N/A	N/A	10.0.6	N/A	N/A	N/A	N/A	10.0.6	10.0.6	10.0.6	N/A
Feb 2013	10.0.5	10.0.5	10.0.5	10.0.5	N/A	10.0.5	10.0.5	10.0.5	10.0.5	10.0.5	10.0.5	N/A
December 2012	10.0	10.0	10.0	N/A	N/A	10.0	10.0	10.0	10.0	10.0	10.0	N/A
July 2012	9.6	9.6	9.6	N/A	N/A	9.6	N/A	N/A	9.6	9.6	9.6	N/A
March 2012 <sup>11</sup>	9.5	9.5	9.5	N/A	N/A	9.5	N/A	N/A	9.5	9.5	9.5	N/A
January 2012	9.1	9.1	9.1	N/A	N/A	9.1	N/A	N/A	3.0.1	3.0.1	N/A	RIOS 7.0X (3.0)
November 2011	9.0.6	9.0.6	9.0.6	N/A	N/A	9.0.6	N/A	N/A	3.0.1	3.0.1	N/A	N/A
July 2011	9.0.6	9.0.6	9.0.6	N/A	N/A	9.0.6	N/A	N/A	3.0	3.0	N/A	N/A
June 2011	9.0.5	9.0.5	9.0.5	N/A	N/A	9.0.5	N/A	N/A	3.0	3.0	N/A	N/A
February 2011 <sup>12</sup>	9.0	9.0	9.0	N/A	N/A	9.0	N/A	N/A	N/A	N/A	N/A	N/A
October 2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.4	2.4	N/A	N/A

<sup>2</sup> Express 460 is new in version 10.0.5

<sup>3</sup> Express 460 Virtual Edition is new in version 10.6

<sup>4</sup> Sensor Virtual Edition is last supported in 10.0.8.

<sup>5</sup> Profiler Virtual Edition is new in version 10.0.

<sup>6</sup> Gateway Virtual Edition is new in version 10.0.

<sup>7</sup> Virtual Shark is new in version 9.5. It is not available in earlier releases.

<sup>8</sup> Embedded Shark was first delivered in Steelhead 7.0. Because the Embedded Shark is updated based on Steelhead software release schedules, the releases will not correspond exactly. For example, there is no 9.5 version of Embedded Shark. See the compatibility tables below to understand the specific details.

<sup>9</sup> There is no version 10.6.1Pilot. 10.6 Pilot works with version 10.6.1 Shark and Profiler.

<sup>10</sup> There are no version 10.0.8 Shark, Pilot and Virtual Shark. 10.0.7 Shark, Pilot and Virtual Shark work with version 10.0.8 Profiler.

<sup>11</sup> As of the March 2012 release, version numbering for Shark, Pilot, and Virtual Shark were changed to match current version numbers for Profiler, Sensor, Gateway and Sensor-VE (i.e., 9.5).

<sup>12</sup> Prior to the June 2011 release, the Profiler was not integrated with Shark/Pilot. Therefore, the 2.4 release of Shark/Pilot and the Profiler/Gateway/Sensor 9.0 releases were totally independent products. That is reflected in the last two rows of the product matrix shown here.

**Compatibility Matrix for Cascade 9.5:** This table lists the product version compatibility for the Cascade 9.5 release. Across the table, the columns represent a specific Cascade product running the 9.5 release. Each row of the table also represents a product running an older version of software. The specific compatibility issues are shown in each cell of the table.

Symbol	Meaning
😊	Expected to be compatible
—	Incompatible
N/A	Not applicable
😬	Partially compatible with known issues

	Cascade 9.5 Release			
	Profiler	Sensor, Gateway, Sensor-VE	Virtual Shark, Shark	Pilot
<b>Profiler 9.1</b>	N/A	—	😬 <sup>13</sup>	—
<b>Sensor, Gateway, Sensor-VE 9.1</b>	😊	N/A	N/A	N/A
<b>Shark 3.0.X<sup>14</sup></b>	😬 <sup>15</sup>	N/A	N/A	😬 <sup>16</sup>
<b>Embedded Shark 3.0 (RIOS 7.0.X)</b>	— <sup>17</sup>	N/A	N/A	😬
<b>Pilot 3.0.X</b>	— <sup>18</sup>	N/A	—	N/A
<b>Profiler 9.0.X<sup>19</sup></b>	N/A	—	😬 <sup>20</sup>	—
<b>Sensor, Gateway, Sensor-VE 9.0.X</b>	😊	N/A	N/A	N/A
<b>Shark 2.4</b>	N/A	N/A	N/A	—
<b>Pilot 2.4</b>	N/A	N/A	—	N/A

<sup>13</sup> VoIP statistics are not processed by Profiler. Drill down from Profiler to Pilot/Shark does not work. Virtual Shark will appear as a Gateway on the Profiler's Devices/Interfaces page and retransmit data and all round trip time data is not processed by Profiler.

<sup>14</sup> 3.0.X refers to versions 3.0 and 3.0.1

<sup>15</sup> Flow export works. Drill down from Profiler to Pilot/Shark does not work.

<sup>16</sup> Views that rely on new features in 9.5, such as multi-segment analysis, are unsupported. Other views should work.

<sup>17</sup> Embedded Shark does not export flow data

<sup>18</sup> Drill down from Profiler to Pilot/Shark does not work.

<sup>19</sup> 9.0.X refers to versions 9.0.5 and 9.0.6

<sup>20</sup> See comments under footnote six.

**Compatibility Matrix for Cascade 10.0:** This table lists the product version compatibility for the Cascade 10.0 release. Across the table, the columns represent a specific Cascade product running the 10.0 release. Each row of the table also represents a product running an older version of software. The specific compatibility issues are shown in each cell of the table. Note that Shark/Pilot 2.4 and 3.0 as well as Profiler 9.0 was dropped from this table.

	Cascade 10.0 Release			
	Profiler, Virtual Profiler	Sensor, Gateway, Virtual Gateway Sensor-VE	Virtual Shark, Shark	Pilot
<b>Profiler 9.5</b>	N/A	—	☹️ <sup>21</sup>	—
<b>Sensor, Gateway, Sensor-VE 9.5</b>	☹️ <sup>22</sup>	N/A	N/A	N/A
<b>Shark 9.5</b>	😊	N/A	N/A	😊
<b>Embedded Shark 3.0 (RIOS 7.0.X)</b>	— <sup>23</sup>	N/A	N/A	😊
<b>Pilot 9.5</b>	😊	N/A	—	N/A
<b>Profiler 9.1</b>	N/A	—	☹️ <sup>24</sup>	—
<b>Sensor, Gateway, Sensor-VE 9.1</b>	☹️ <sup>25</sup>	N/A	N/A	N/A

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<sup>21</sup> Drill down from Profiler to Pilot/Shark does not work.

<sup>22</sup> RTT data from older versions of Sensor is not processed by Profiler. This issue may be corrected in a future version.

<sup>23</sup> Embedded Shark does not export flow data

<sup>24</sup> VoIP statistics are not processed by Profiler. Drill down from Profiler to Pilot/Shark does not work. Virtual Shark will appear as a Gateway on the Profiler's Devices/Interfaces page and retransmit data and all round trip time data is not processed by Profiler.

<sup>25</sup> RTT data from older versions of Sensor is not processed by Profiler. This issue may be corrected in a future version.

**Compatibility Matrix for Cascade 10.0.5:** This table lists the product version compatibility for the Cascade 10.0.5 release. Across the table, the columns represent a specific Cascade product running the 10.0.5 release. Each row of the table also represents a product running an older version of software. The specific compatibility issues are shown in each cell of the table. Note that Profiler, Sensor, and Gateway 9.1 were dropped from this table. Express 460 is included in the table because it is introduced in 10.0.5.

	Cascade 10.0.5 Release			
	Profiler, Virtual Profiler, Express 460	Sensor, Gateway, Virtual Gateway Sensor-VE	Virtual Shark, Shark	Pilot
<b>Profiler 10.0</b>	N/A	—	—	—
<b>Sensor, Gateway, Sensor-VE 10.0</b>	☺	N/A	N/A	N/A
<b>Shark 10.0</b>	☺	N/A	N/A	☺
<b>Pilot 10.0</b>	—	N/A	—	N/A
<b>Profiler 9.5</b>	N/A	—	—	—
<b>Sensor, Gateway, Sensor-VE 9.5</b>	☺	N/A	N/A	N/A
<b>Shark 9.5</b>	☺	N/A	N/A	☺
<b>Embedded Shark 3.0 (RIOS 7.0.X)</b>	— <sup>26</sup>	N/A	N/A	☺
<b>Pilot 9.5</b>	—	N/A	—	N/A

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<sup>26</sup> Embedded Shark does not export flow data

**Compatibility Matrix for Cascade 10.0.6:** This table lists the product version compatibility for the Cascade 10.0.6 release. Across the table, the columns represent a specific Cascade product running the 10.0.6 release. Each row of the table also represents a product running an older version of software. The specific compatibility issues are shown in each cell of the table. Note: 10.0.6 is only available on Express 460 and Shark, and Pilot Products.

	Cascade 10.0.6 Release		
	Express 460	Virtual Shark, Shark	Pilot
<b>Profiler 10.0.5</b>	N/A	☺	—
<b>Sensor, Gateway, Sensor-VE 10.0 / 10.0.5</b>	☺	N/A	N/A
<b>Shark 9.5/ 10.0 / 10.0.5</b>	☺	N/A	☺
<b>Pilot 10.0 / 10.0.5</b>	—	—	N/A
<b>Profiler 9.5 and 10.0</b>	N/A	—	—
<b>Sensor, Gateway, Sensor-VE 9.5</b>	☺	N/A	N/A
<b>Embedded Shark 3.0 (RIOS 7.0.X)</b>	— <sup>27</sup>	N/A	☺
<b>Pilot 9.5</b>	—	—	N/A

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<sup>27</sup> Embedded Shark does not export flow data



**Compatibility Matrix for Cascade 10.0.7:** This table lists the product version compatibility for the Cascade 10.0.7 release. Across the table, the columns represent a specific Cascade product running the 10.0.7 release. Each row of the table also represents a product running an older version of software. The specific compatibility issues are shown in each cell of the table.

	Cascade 10.0.7 Release			
	Profiler, Virtual Profiler, Express 460	Sensor, Gateway, Virtual Gateway, Sensor-VE	Virtual Shark, Shark	Pilot
Profiler 10.0.5/ 10.0.6	N/A	☺	☺	—
Sensor, Gateway, Sensor-VE 10.0/ 10.0.5/ 10.0.6	☺	N/A	N/A	N/A
Shark 10.0/ 10.0.5/ 10.0.6	☺	N/A	N/A	☺
Pilot 10.0/ 10.0.5/ 10.0.6	—	N/A	—	N/A
Profiler 9.5 and 10.0	N/A	—	—	—
Sensor, Gateway, Sensor-VE 9.5	☺	N/A	N/A	N/A
Shark 9.5	☺	N/A	N/A	☺
Embedded Shark 3.0 (RIOS 7.0.X)	— <sup>28</sup>	N/A	N/A	☺
Pilot 9.5	—	N/A	—	N/A

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<sup>28</sup> Embedded Shark does not export flow data

**Compatibility Matrix for Cascade 10.0.8:** This table lists the product version compatibility for the Cascade 10.0.8 release. Across the table, the columns represent a specific Cascade product running the 10.0.8 release. Each row of the table also represents a product running an older version of software. The specific compatibility issues are shown in each cell of the table. Note that there are no 10.0.8 Shark, Pilot and virtual Shark. 10.0.7 Shark, Pilot and virtual Shark work with 10.0.8 Profiler.

	Cascade 10.0.8 Release	
	Profiler, Virtual Profiler, Express 460	Sensor, Gateway, Virtual Gateway, Sensor-VE
Profiler 10.0.5/ 10.0.6 / 10.0.7	N/A	☺
Sensor, Gateway, Sensor-VE 10.0/ 10.0.5/ 10.0.6 /10.0.7	☺	N/A
Shark 10.0/ 10.0.5/ 10.0.6 / 10.0.7	☺	N/A
Pilot 10.0/ 10.0.5/ 10.0.6 / 10.0.7	—	N/A
Profiler 9.5 and 10.0	N/A	—
Sensor, Gateway, Sensor-VE 9.5	☺	N/A
Shark 9.5	☺	N/A
Embedded Shark 3.0 (RIOS 7.0.X)	— <sup>29</sup>	N/A
Pilot 9.5	—	N/A

<sup>29</sup> Embedded Shark does not export flow data

**Compatibility Matrix for Cascade 10.5:** This table lists the product version compatibility for the Cascade 10.5 release. Across the table, the columns represent a specific Cascade product running the 10.5 release. Each row of the table also represents a product running an older version of software. The specific compatibility issues are shown in each cell of the table.

	Cascade 10.5 Release			
	Profiler, Virtual Profiler, Express 460	Sensor, Gateway, Virtual Gateway	Virtual Shark, Shark	Pilot
Profiler 10.0.5/ 10.0.6/ 10.0.7/ 10.0.8	N/A	—	—	—
Sensor, Gateway, Sensor-VE 10.0/ 10.0.5/ 10.0.6/ 10.0.7/ 10.0.8	☺	N/A	N/A	N/A
Shark 10.0/ 10.0.5/ 10.0.6/ 10.0.7	☺	N/A	N/A	☺
Pilot 10.0/ 10.0.5/ 10.0.6/ 10.0.7	—	N/A	—	N/A
Profiler 9.5 and 10.0	N/A	—	—	—
Sensor, Gateway, Sensor-VE 9.5	☺	N/A	N/A	N/A
Shark 9.5	☺	N/A	N/A	☺
Embedded Shark 3.0 (RIOS 7.0.X)	— <sup>30</sup>	N/A	N/A	—
Pilot 9.5	—	N/A	—	N/A

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<sup>30</sup> Embedded Shark does not export flow data

**Compatibility Matrix for Cascade 10.6:** This table lists the product version compatibility for the Cascade 10.6 release. Across the table, the columns represent a specific Cascade product running the 10.6 release. Each row of the table also represents a product running an older version of software. The specific compatibility issues are shown in each cell of the table. Note that Virtual Express 460 is included in the table because it is introduced in 10.6.

	Cascade 10.6 Release			
	Profiler, Virtual Profiler, Express 460, Virtual Express 460	Sensor, Gateway, Virtual Gateway	Virtual Shark, Shark	Pilot
Profiler 10.0.5/ 10.0.6/ 10.0.7/ 10.0.8/ 10.5	N/A	—	—	—
Sensor, Gateway 10.0/ 10.0.5/ 10.0.6/ 10.0.7/ 10.0.8/ 10.5	☺	N/A	N/A	N/A
Sensor-VE 10.0/ 10.0.5/ 10.0.6/ 10.0.7/ 10.0.8	☺	N/A	N/A	N/A
Shark 10.0/ 10.0.5/ 10.0.6/ 10.0.7/ 10.5	☺	N/A	N/A	☺
Pilot 10.0/ 10.0.5/ 10.0.6/ 10.0.7/ 10.5	—	N/A	—	N/A
Profiler 9.5 and 10.0	N/A	—	—	—
Sensor, Gateway, Sensor-VE 9.5	☺	N/A	N/A	N/A
Shark 9.5	☺	N/A	N/A	☺
Embedded Shark 3.0 (RIOS 7.0.X)	— <sup>31</sup>	N/A	N/A	—
Pilot 9.5	—	N/A	—	N/A

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<sup>31</sup> Embedded Shark does not export flow data

**Compatibility Matrix for Cascade 10.6.1:** This table lists the product version compatibility for the Cascade 10.6.1 release. Across the table, the columns represent a specific Cascade product running the 10.6.1 release. Each row of the table also represents a product running an older version of software. The specific compatibility issues are shown in each cell of the table. Note that there is no 10.6.1 Pilot and 10.6 Pilot works with 10.6.1 Shark and Profiler.

	Cascade 10.6.1 Release		
	Profiler, Virtual Profiler, Express 460, Virtual Express 460	Sensor, Gateway, Virtual Gateway	Virtual Shark, Shark
Pilot 10.6	☺	N/A	☺
Profiler 10.0.5/ 10.0.6/ 10.0.7/ 10.0.8/ 10.5/ 10.6	N/A	—	—
Sensor, Gateway 10.0/ 10.0.5/ 10.0.6/ 10.0.7/ 10.0.8/ 10.5/ 10.6	☺	N/A	N/A
Sensor-VE 10.0/ 10.0.5/ 10.0.6/ 10.0.7/ 10.0.8	☺	N/A	N/A
Shark 10.0/ 10.0.5/ 10.0.6/ 10.0.7/ 10.5/ 10.6	☺	N/A	N/A
Pilot 10.0/ 10.0.5/ 10.0.6/ 10.0.7/ 10.5	—	N/A	—
Profiler 9.5 and 10.0	N/A	—	—
Sensor, Gateway, Sensor-VE 9.5	☺	N/A	N/A
Shark 9.5	☺	N/A	N/A
Embedded Shark 3.0 (RIOS 7.0.X)	— <sup>32</sup>	N/A	N/A
Pilot 9.5	—	N/A	—

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<sup>32</sup> Embedded Shark does not export flow data