

Product Brief:

Ethernet Link Aggregation

Revision - ELA 2.0



Product Overview:

Ethernet Link Aggregation is designed to overcome two problems that are common in Ethernet based deployments – bandwidth limitation and link redundancy – by allowing the grouping of multiple Ethernet links into an aggregation group. Links can either be assigned to a group statically or as negotiated through the exchange of Link Aggregation Control Protocol [LACP] messages.

Asidua's Link Aggregation [LAG] software stack has been developed in partnership with Wintegra building on the capabilities of the WinPath Data Path Software to present a fully functional, integrated solution.

The LAG stack delivers a full LACP implementation to provide aggregation and redundancy and is fully compliant with the international standard IEEE 802.1 AX [previously identified as IEEE 802.3ad].

Features:

- Configurable for different deployment scenarios
 - Default: 48 ports, 48 groups, 8 ports per group
- Integrated support for WDDI API thus running on any applicable WinPath variant
- Portable ANSI 'C' implementation
- Operating System Independent
- Deterministic, predefined selection logic.
 - Flexibility to implemented customer specific selection algorithm if required.
- Weighted load balancing
- Link Redundancy
- API for statistics gathering and retrieval
- Delivered with comprehensive User Guide & API documentation and example reference application

The Stack:

The software stack is deployed on a common framework (integrated with Wintegra's WDDI) which maximizes operating system independence and facilitates the deployment of multiple concurrent protocols if required.

By means of the interface layers it is possible to deploy a stack on a number of different platforms. An OS abstraction layer [OSL], implemented for Linux, simplifies the porting exercise between operating systems while the transport layer enables the solution to be deployed:

- In a single monolithic image with the WDDI object
- As a separate process from the main WDDI object but on the same processor
- On a different processor from the WDDI object, e.g. on an external PowerPC with the internal MIPS as a WDDI processing engine

Licensing:

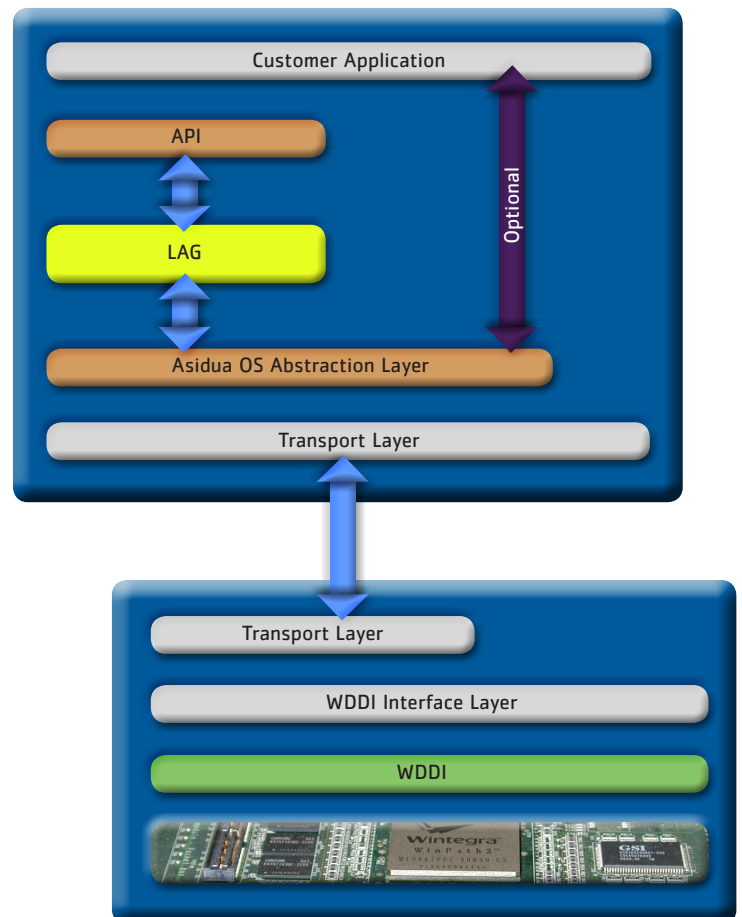
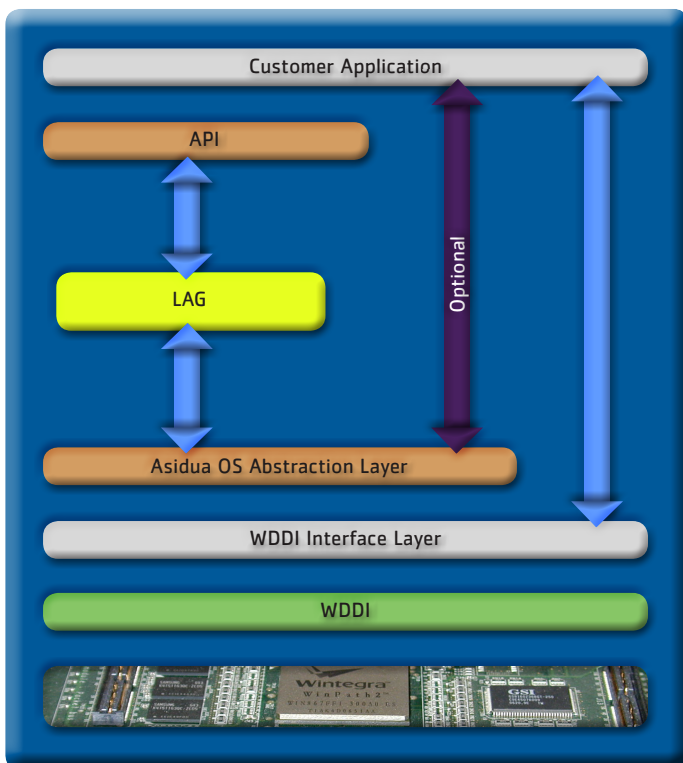
The licencing model for the LAG software stack is designed for ease of use and integration with customers' development platforms. A one-off fee provides the licensee with full source code and the right to use the stack on one product.

Deliverables:

- Source code
- Build environment
- Detailed API documentation
- WDDI Reference Application [showcases the use of the software stack]
- User guide

Ethernet Link Aggregation:

Standards – IEEE 802.1 AX [was 802.3 ad]



Technical Specifications:

Packet Distribution Logic	Both Conversation and WRR; Implemented by the Data Path
Load Balancing Capability	Yes
Group Selection Logic: - Automatic [LACPDU] - Manual	Yes Yes
Scaleable Deployment - Number of Ports - Number of Port Groups - Number of Links per Group	Default Values 48 48 8
Number of Conversations in Group	Unlimited
LACPDU Support: - Generation - Response	Yes Yes
Marker Support	Response Only
OS Support	OS Independent
Reference Application	Yes, Linux
WDDI Integration	Yes (example reference application supplied)
Debugging Tools	Yes
Development Board	Yes (WDS2)
Memory Usage	For 8 port deployment - 800kb
CPU Usage	Negligible

Contact Information:

Further information on Asidua's Ethernet Link Aggregation can be obtained from:

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