NAME

ALPSdata – QNET ALPS file format

DESCRIPTION

ALPS (Approximate Linear Program Solution) files are created by programs that solve a multiclass queueing network or stochastic processing network by generating and solving a linear program to determine an approximation the differential cost function. The files contain a complete set of information about the network configuration and the differential cost approximation.

An ALPS file is organized into three required sections, each beginning and ending with specific tags. The sections are

Name	Start Tag	End Tag	Description
Input	<INPUT>	</INPUT>	Network specification parameters
Solution	<ALP_SOLUTION>	</ALP_SOLUTION>	Coefficients of basis functions
Basis	<BASIS_INFO>	</BASIS_INFO>	C++ source code for basis function definition

The **input** section contains a verbatim copy of the input file used by the ALP solver; see **SPNetwork**(5) for the input file format.

The **Solution** section contains the ALP solution information. The value *NumberOfCoefficients* must be present and defines the number of coefficients for the basis functions used in in the solution. The values of the coefficients $r(1)$, $r(2)$, etc. come next. Although not required, typically the value of the average cost per stage J and the value of the ALP objective are also listed. When the standard (non-user defined) functions are used, the coefficients are followed by a comment which shows the coefficient used in its corresponding function.

The **Basis** section contains information about the basis used to solve the ALP. This will either be one or two lines that describe which of the built-in basis functions are used or the complete C++ source code for a user-defined set of basis functions used by the ALP solver. See **alp**(1) for a list of the possible built-in basis functions and **userBasis**(5) for more information about user-defined basis functions.

SEE ALSO

alp(1), **ALPSdata**(3), **SPNetwork**(3), **TaggedValues**(3), **SPNetwork**(5), **userBasis**(5)

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