GAMS Workshop
Development & Deployment

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GAMS at a Glance

General Algebraic Modeling System

- Algebraic Modeling Language
- 30+ Integrated Solvers
- 10+ Supported MP classes
- 10+ Supported Platforms
- Connectivity & Productivity Tools
  - IDE
  - Model Libraries
  - GDX, Interfaces & Tools
  - Grid Computing
  - Benchmarking
  - Compression & Encryption
  - Deployment System
  - APIs (C, Fortran, Java, .Net ...)
  - ...

Algebraic Modeling Language

30+ Integrated Solvers

10+ Supported MP classes

10+ Supported Platforms

Connectivity & Productivity Tools

IDE

Model Libraries

GDX, Interfaces & Tools

Grid Computing

Benchmarking

Compression & Encryption

Deployment System

APIs (C, Fortran, Java, .Net ...)

...
Monthly System Downloads

Download GAMS Distribution 23.8.1 - March 17, 2012

Note: To deliver GAMS with the best performance we are using the Amazon CloudFront web service, a global network of edge locations for content delivery. Microsoft Internet Explorer users who have enabled SmartScreen Filter may get several warnings during the download of a GAMS system. If you do not want to ignore these, please cancel the download and download the current version for Windows 10 or Windows 8/8.1 as a zip file and unzip this file before running the setup program.

Please consult the release notes before downloading a system. The installation notes for Windows and UNIX and the complete system documentation are included in any

Windows
- Windows 64 bit: Windows 7 64, Windows Vista x64, Windows Server 2008 x64, Windows Server 2003 x64, and compatible on AMD- or Intel-based (x86_64) architec

Unix
- AIX: AIX 6.1 or higher, PowerPC chip, 64 bit (ppc64)
- Linux 32 bit: AMD or Intel based 32 bit Linux systems. The software was built with the GNU Compiler Collection (GCC) version 4.4 or higher
- Linux 64 bit: AMD or Intel based 64 bit Linux systems. The software was built with the GNU Compiler Collection (GCC) version 4.4 or higher

Monthly Downloads

United States
- $0.120 per GB - first 10 TB / month data transfer out: 197.126 GB, 23.66
- $0.0100 per 10,000 HTTPS Requests: 3 Requests, 0.01
- $0.0075 per 10,000 HTTP Requests: 52,154 Requests, 0.04

Europe
- $0.120 per GB - first 10 TB / month data transfer out: 212.982 GB, 25.56
- $0.0120 per 10,000 HTTPS Requests: 1 Request, 0.01
- $0.0090 per 10,000 HTTP Requests: 16,456 Requests, 0.01

Asia Pacific (Tokyo) Region
- $0.201 per GB - first 10 TB / month data transfer out (includes consumption tax): 23.800 GB, 4.78
- $0.0500 per 10,000 HTTPS Requests: 4,675 Requests, 0.01
- $0.0400 per 10,000 HTTP Requests: 4,790 Requests, 0.02

Amazon CloudFront
Download Usage Report »
Release Notes:

www.gams.com/docs/release/release.htm

GAMS Distribution 23.9

To use this distribution, the maintenance expiration date for your license must be later than July 4, 2012.

Distribution History

23.9.3 (Maintenance Release), Release Date September 27, 2012
23.9.2 (Maintenance Release), Release Date September 4, 2012
23.9.1 (Major Release), Release Date July 10, 2012

GAMS Maintenance Release 23.9.3

Maintenance releases do not provide any new features. They are issued to provide bug fixes, performance improvements and maintenance releases of solver libraries. The License Check Date remains the same as for the prior major release. This means that any license file that worked with major release 23.9.1 will also work with this maintenance release.

- GAMS System
  - APIs
  - GAMS
  - Utilities
- Solvers
  - Coin-OR

GAMS System

APIs

.NET

- Constructor of GAMSWorkspace now appends conditionally the GAMS system directory to the PATH environment variable. This fixes a problem with applications
GAMS@INFORMS 2012

- GAMS Booth in the Exhibit Area
- Software Demo
  - Lutz Westermann, Sunday, 1:30pm, West 202- CC
- .NET API
  - Object Oriented GAMS API: .NET and Beyond, Michael Bussieck, Monday, 8am, Suite 322
- GDXRRW
  - GDXRRW: Exchanging Data between GAMS and R, Steven Dirkse, Monday, 11am, Suite 322
- Stochastic Programming
  - Stochastic Programming in GAMS, Lutz Westermann, Monday, 11am, Suite 322
Cutting Stock Problem: Objective

- Cut finished widths …
  - of different sizes
  - from large raw paper rolls
  - in order to meet customer's demand

- Objective: minimize the cost of raw paper rolls used
Cutting Stock Problem: Input / Output

• Input:
  – Number of different cut widths with…
    • Size of width
    • Demand quantity
  – Available types of raw rolls with . . .
    • Size
    • Cost
• Intermediate
  – (Sub)set of possible patterns
• Output:
  – Type and quantity of required raw paper rolls
  – Patterns to cut
Cutting Stock Data

- Pre-compute all patterns
  - In monolithic application
  - In a separate GAMS job: communicate with GDX
  - In a different language: communicate with GDX
- Compute patterns on the fly
  - The master model becomes an RMIP
  - Patterns arise as solutions to a knapsack problem
Cutting Stock Problem: Column Generation

Master Model → Demand Duals → New Patterns → Pricing Model

→ cutstock.gms
Contacting GAMS

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