

ISBSG Analysis Report

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MAINTENANCE & SUPPORT **Data Demographics**

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Introduction

This report provides a demographic overview of the 1007 applications in ISBSG Maintenance & Support (M&S) Repository.

Benchmark Period

The Benchmark Period refers to the period of time during which information (e.g. number of defects) is recorded for an M&S application.

The benchmark periods of applications in the M&S Repository range from the year 1993 to 2012. The majority of applications (i.e. 464) have their benchmark periods in the year 2012. Unfortunately 450 of the 464 applications only contain defect (incident) and effort data.

A block of 169 applications from the 1990's is included in this release. These applications provide a useful baseline against which analyses of more recent projects can be compared.

Number of Applications	Benchmark Year
169	1993
45	2000
3	2001
12	2002
29	2003
30	2004
35	2005
26	2006
12	2007
34	2008
110	2009
29	2010
9	2011
464	2012
1007	Total

Table 1: Applications per Benchmark Year

Often, the benchmark period of submitted data will vary from less than one month to more than 12 months. Most ISBSG M&S reports analyse annual data, so data over a benchmark period of 12 months is required. To achieve this, a scaling factor, based on the benchmark period is calculated. For example, if the benchmark period of an application is 12 months, the scaling factor will equal "1"; if the benchmark period is 6 months, the scaling factor will equal "2". This factor will then multiply data such as defect counts and effort values so that accurate statistics can be calculated using the M&S data.

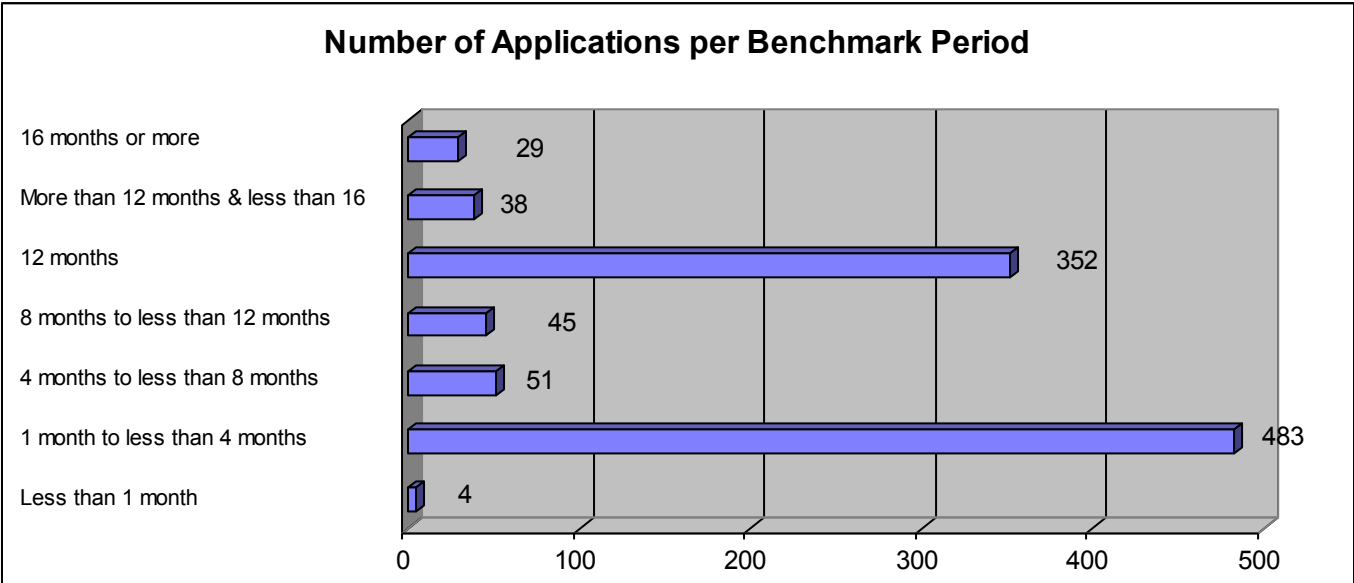


Figure 1: Applications per Benchmark Period

Industry Sector

Applications in the M&S Repository originate from a variety of industries, as shown in the table below.

Industry	Number of Applications
Banking	179
Communications	89
Education	61
Electronics & Computers	48
Energy Sources	2
Financial	105
Government	67
Insurance	9
Manufacturing	24
Medical & Health Care	7
Service Industry	11
Wholesale & Retail	195
Total	797

Table 2: Applications per Industry Sector

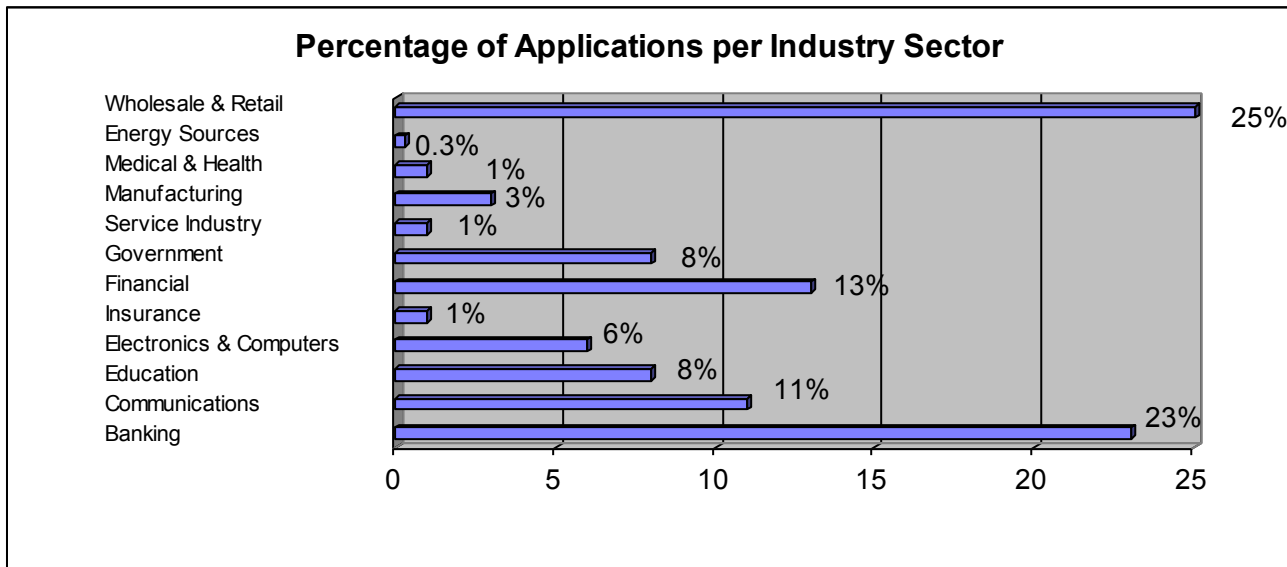


Figure 2: Percentage of Applications per Industry Sector

Application Type

The number of applications for each application type is shown in the table below. An application can have more than one application type.

Application Type	Number of Applications	Application Type	Number of Applications
Business	88	Online Analysis & Reporting	16
Financial	73	Management/Performance Reporting	14
Customer Relationship Management	33	Human Resource Management	13
Data Collection	29	Catalogue/register of things/events	13
Network & Systems	27	Electronic Data Interchange	12
Customer Billing	21	Job, case, incident, project management	9
Wholesale & Retail	21	Workflow Supply & Management	8
Logistic or Supply/Planning & Control	17	Mathematics/Statistics/Engineering	7
Document Management	16		

Table 3: Applications per Application Type

Programming Languages

Approximately 109 different programming languages are used across the 431 applications that provide information on programming language.

Programming Languages were listed 1,131 times for the applications in the M&S Repository. It was found that: 132 (31%) applications use only one language, 98 (23%) use 2 languages, 130 (30%) use 3 languages, 38 (9%) use 4 languages, 32 (7%) use 5 or more languages.

Almost 70% of the 431 applications use more than one language. The median is 2 languages per application.

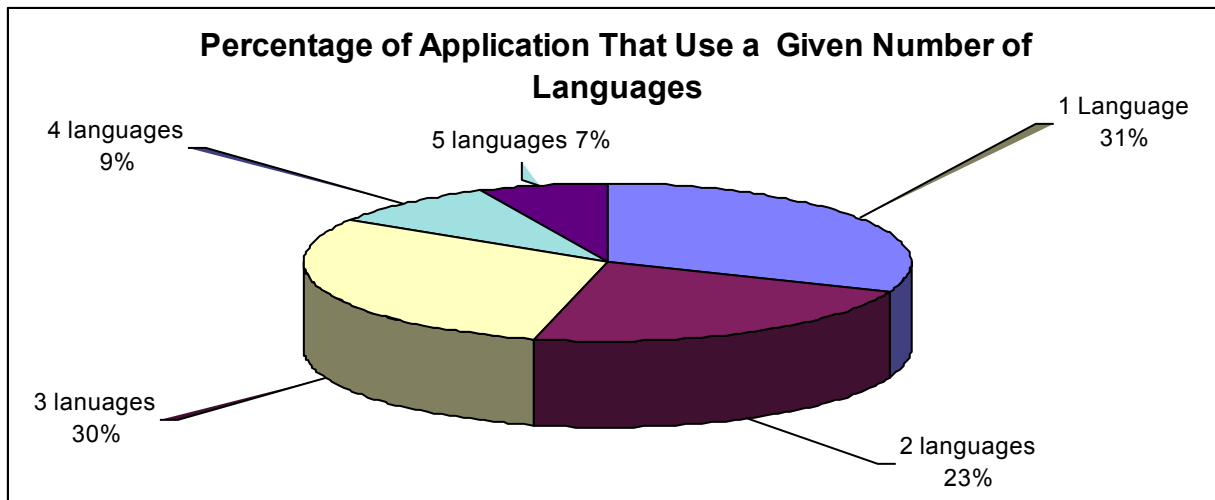


Figure 3: Percentage of Applications That Use a Given Number of Languages

Programming Language Type

Of the 1,131 occurrences of Programming Languages in the M&S Repository, 1,085 of these could be classified according to their language type – Application Generator, 2GL, 3GL or 4GL.

The most popular Application Generator is Telon.

The most popular 3GLs are: Cobol, JCL, Visual Basic and Java.

The most popular 4GLs are: Easy, Easytrieve, SQL, PL/SQL and ASP.

The pie chart shown in Figure 4 displays the percentage breakdown of programming language types in the M&S Repository. 3GLs are the most commonly used.

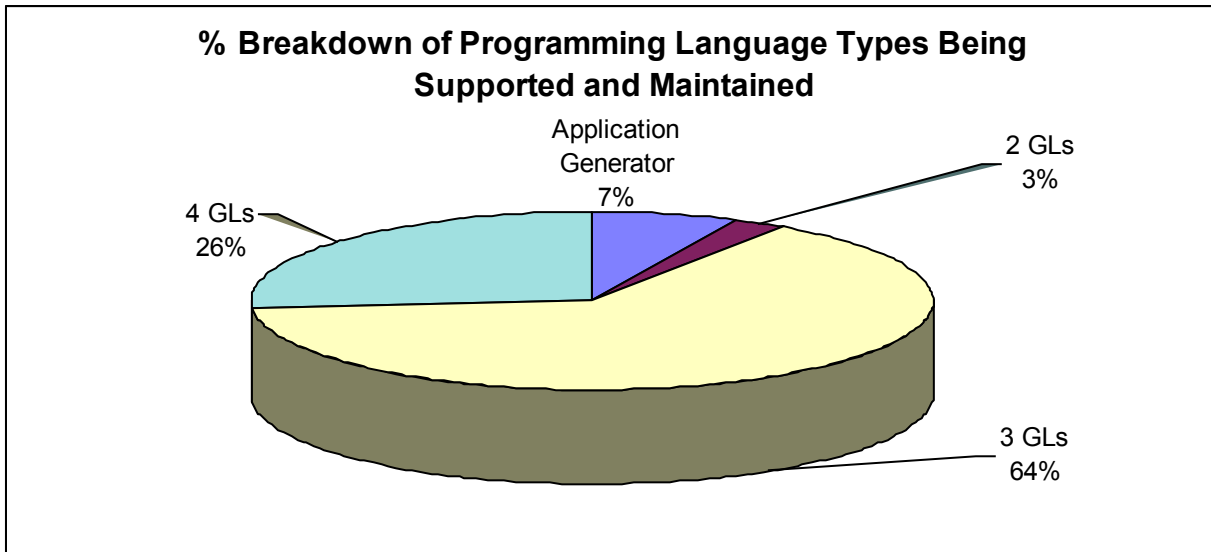


Figure 4: Percentage of Programming Language Types of M&S Applications

Primary Platform Type

Primary platforms are mainly classified as Mainframe, Midrange, PC or Client/Server. 214 M&S applications had their primary platform specified as one of these. The percentage breakdown of this classification is shown below.

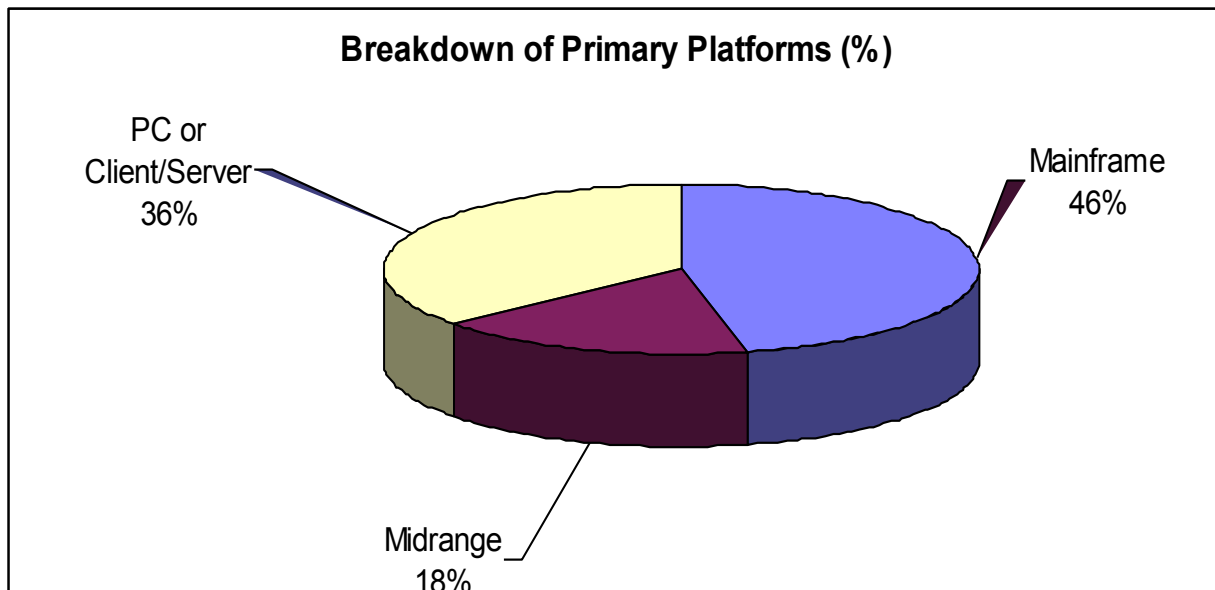


Figure 5: Percentage Breakdown of Primary Platforms

Applications by Size

Functional Size

353 applications in the Repository provide a size using Function Points. A breakdown of the number of applications per functional size range is:

Functional Size Range	Number of Applications
<= 100	72
> 100 and <=200	35
> 200 and <=500	78
> 500 and <= 1000	74
> 1000	94
Total	353

Table 4: Applications per Functional Size Range

Lines of Code Size

347 applications in the Repository provide KSLOC (thousands of lines of code). A breakdown of the number of these applications by KSLOC range is:

KSLOC Size Range	Number of Applications
<= 5	76
> 5 and <=15	64
> 15 and <=50	59
> 50 and <= 100	43
> 100 and <= 500	42
> 500 and <= 5000	48
> 5000	15
Total	347

Table 5: Applications per KSLOC Size Range