Open Source Adoption: What Your Peers Are Up To

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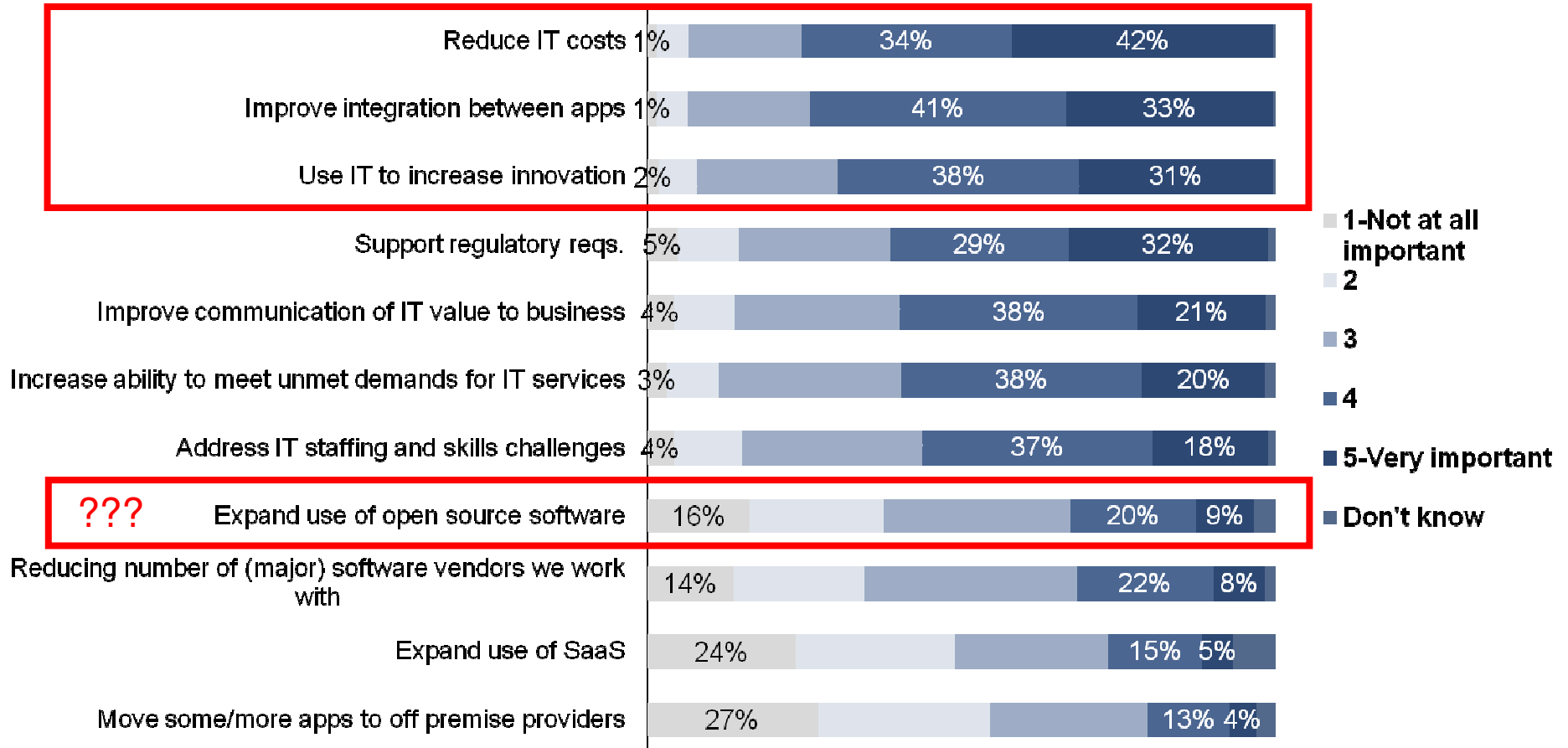"Never waste the opportunities offered by a good crisis…"

Niccolo Machiavelli

Agenda

- **Market Trends And OSS Evolution**
- Adoption Best Practices
- An OSS Assessment Model

In 2009, costs, integration and innovation are all top of mind for execs

"Thinking of your firm's current planning cycle, how important are each of the following *goals*?"

Goal	1			4	5
Reduce IT costs	1%			34%	42%
Improve integration between apps	1%			41%	33%
Use IT to increase innovation	2%			38%	31%
Support regulatory reqs.	5%			29%	32%
Improve communication of IT value to business	4%			38%	21%
Increase ability to meet unmet demands for IT services	3%			38%	20%
Address IT staffing and skills challenges	4%			37%	18%
??? Expand use of open source software	16%			20%	9%
Reducing number of (major) software vendors we work with	14%			22%	8%
Expand use of SaaS	24%			15%	5%
Move some/more apps to off premise providers	27%			13%	4%

Legend:
- 1-Not at all important
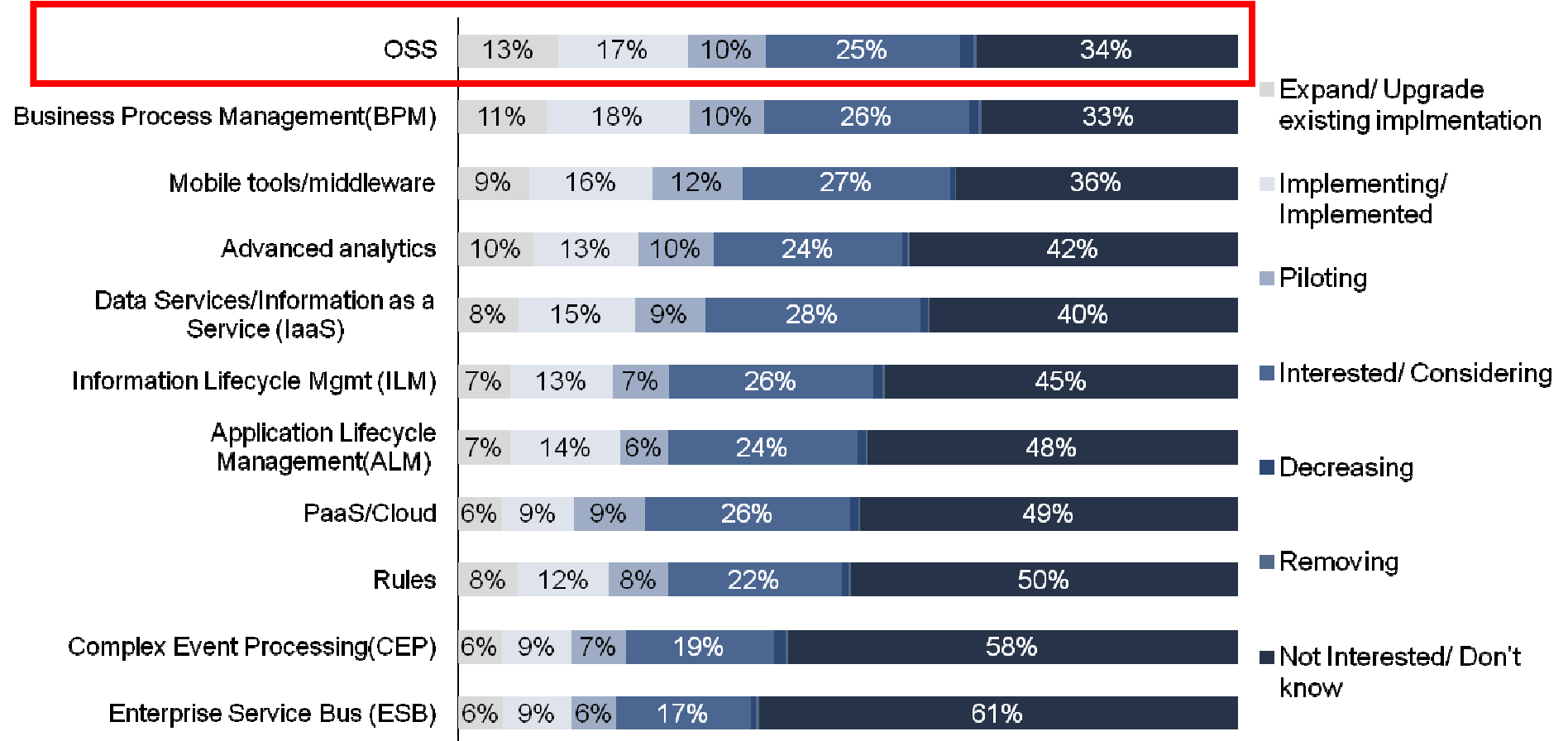- 2
- 3
- 4
- 5-Very important
- Don't know

Base: 2227 software decision-makers at North American and European enterprises and SMBs
Source: Enterprise And SMB Software Survey, North America And Europe, Q4 2008

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Interest in OSS is growing as a result of IT cost pressures

"What are your firm's plans to implement or expand its use of the following software _technologies_ in the next 12 months??

|	Expand/ Upgrade existing implmentation	Implementing/ Implemented	Piloting	Interested/ Considering	Not Interested/ Don't know
OSS	13%	17%	10%	25%	34%
Business Process Management(BPM)	11%	18%	10%	26%	33%
Mobile tools/middleware	9%	16%	12%	27%	36%
Advanced analytics	10%	13%	10%	24%	42%
Data Services/Information as a Service (IaaS)	8%	15%	9%	28%	40%
Information Lifecycle Mgmt (ILM)	7%	13%	7%	26%	45%
Application Lifecycle Management(ALM)	7%	14%	6%	24%	48%
PaaS/Cloud	6%	9%	9%	26%	49%
Rules	8%	12%	8%	22%	50%
Complex Event Processing(CEP)	6%	9%	7%	19%	58%
Enterprise Service Bus (ESB)	6%	9%	6%	17%	61%

(Legend also includes: Decreasing, Removing)

Base: 2,227 software decision makers at North American and European enterprises.

Source: Enterprise And SMB Software Survey, North America And Europe, Q4 2008

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Germany, France lead OSS adoption

"What are you firm's plans to implement or expand its use of open source software in the next 12 months"

	Expand/ Upgrade Existing Implementation	Implementing/ Implemented	Piloting	Interested, considering	Decreasing	Removing	Not interested/ Don't Know	
Germany	19%	14%	14%	25%			24%	N = 191
France	14%	15%	24%	17%			30%	N = 205
U.S.	13%	18%	8%	25%			35%	N = 1435
Canada	14%	15%	6%	27%			37%	N = 172
U.K.	5%	17%	9%	31%			37%	N = 224

Base: 2,227 software decision makers at North American and European enterprises.

Source: Enterprise And SMB Software Survey, North America And Europe, Q4 2008

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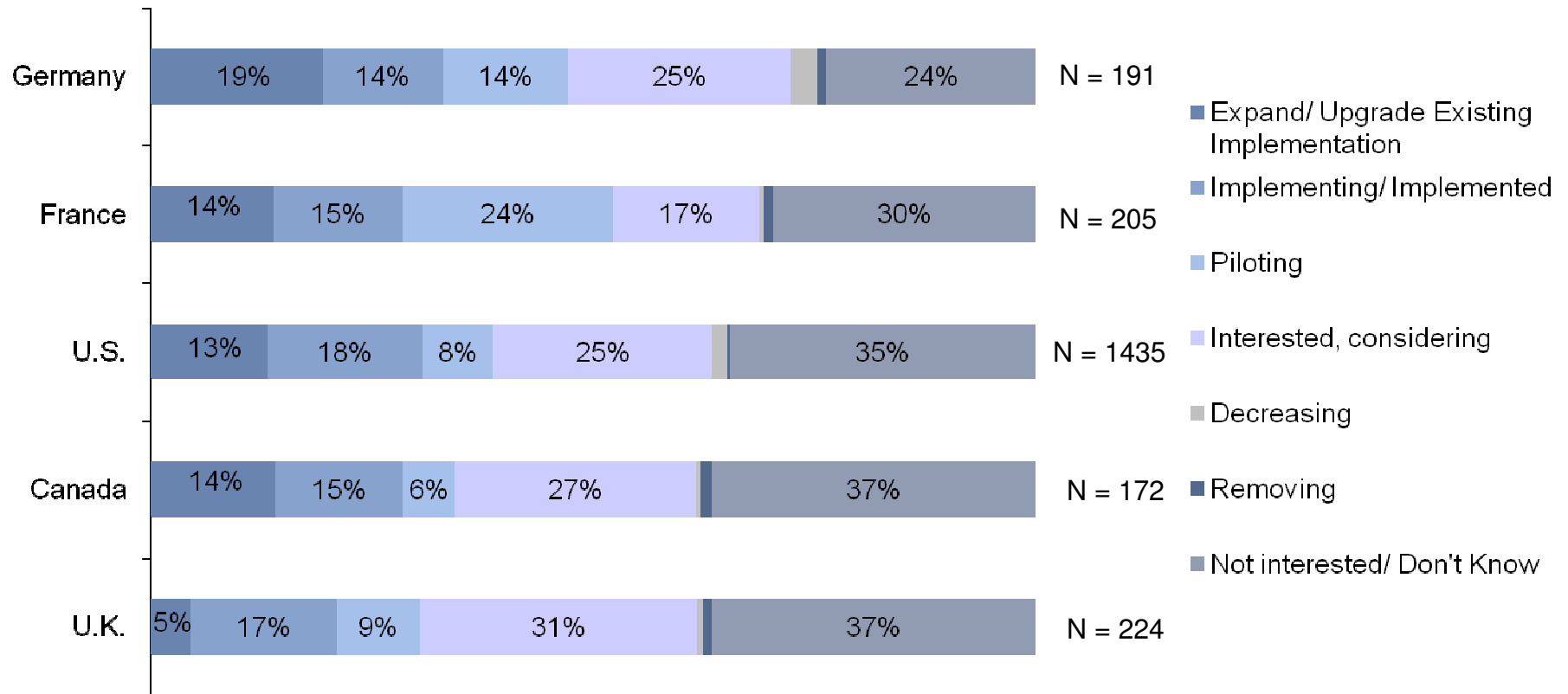
OSS Adoption Is Accelerated In Software Dev.

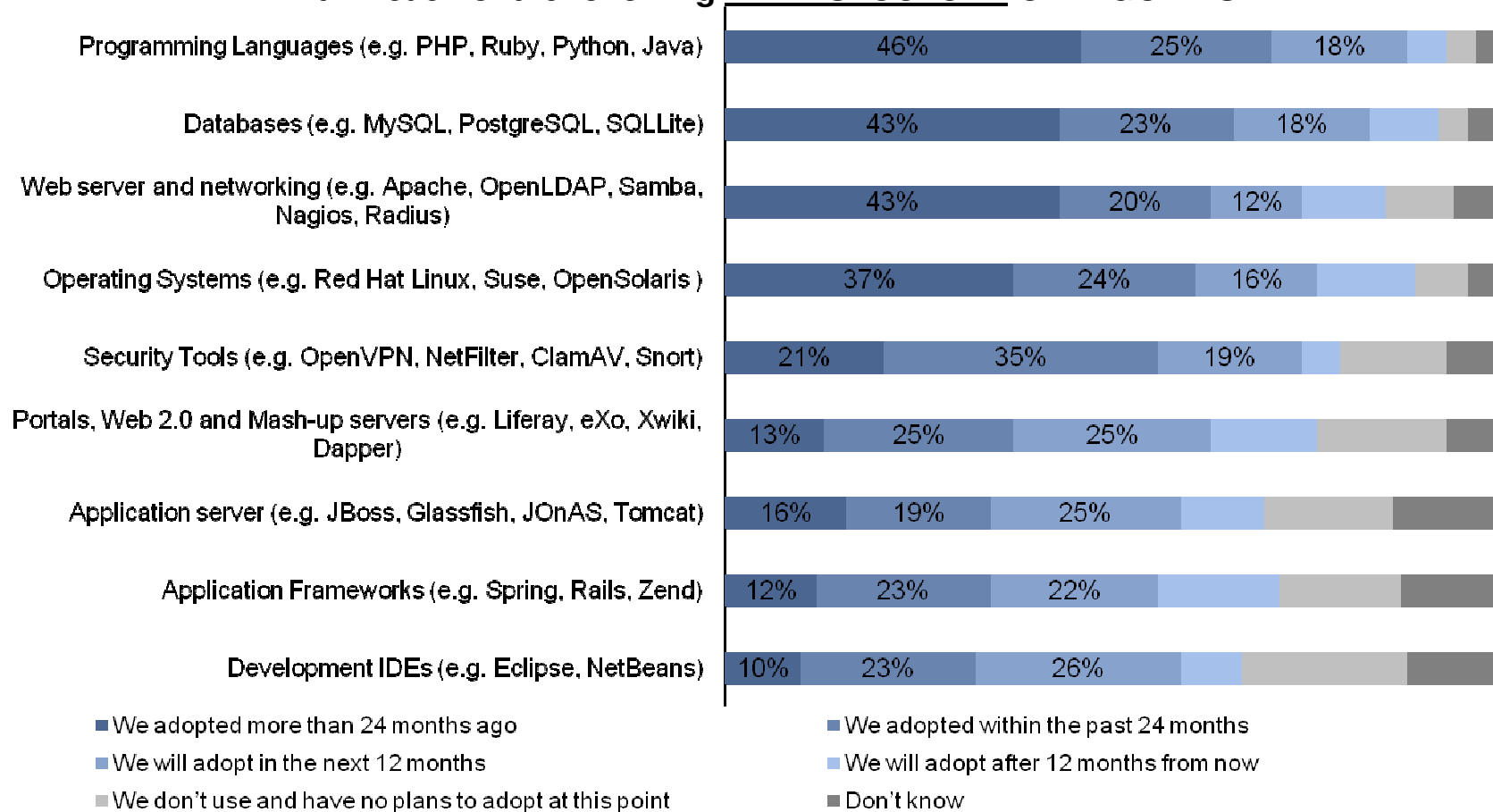**"What are you firm's plans to implement or expand its use of open source software in the next 12 months"**

■	Expand/ Upgrade Existing Implementation	
■	Implementing/ Implemented	
■	Piloting	
■	Interested, considering	
■	Decreasing	
■	Removing	
■	Not interested/ Don't Know	

Germany: 24% | 13% | 12% | 29% | | 17%   N = 81
France: 10% | 17% | 31% | 15% | 0% | 27%   N = 90
U.S.: 17% | 20% | 8% | 23% | | 30%   N = 787
Canada: 19% | 17% | 6% | 23% | | 34%   N = 65
U.K.: 9% | 20% | 11% | 31% | | 29%   N = 91

Base: 1114 software development decision-makers at North American and European enterprises and SMBs

Source: Enterprise And SMB Software Survey, North America And Europe, Q4 2008

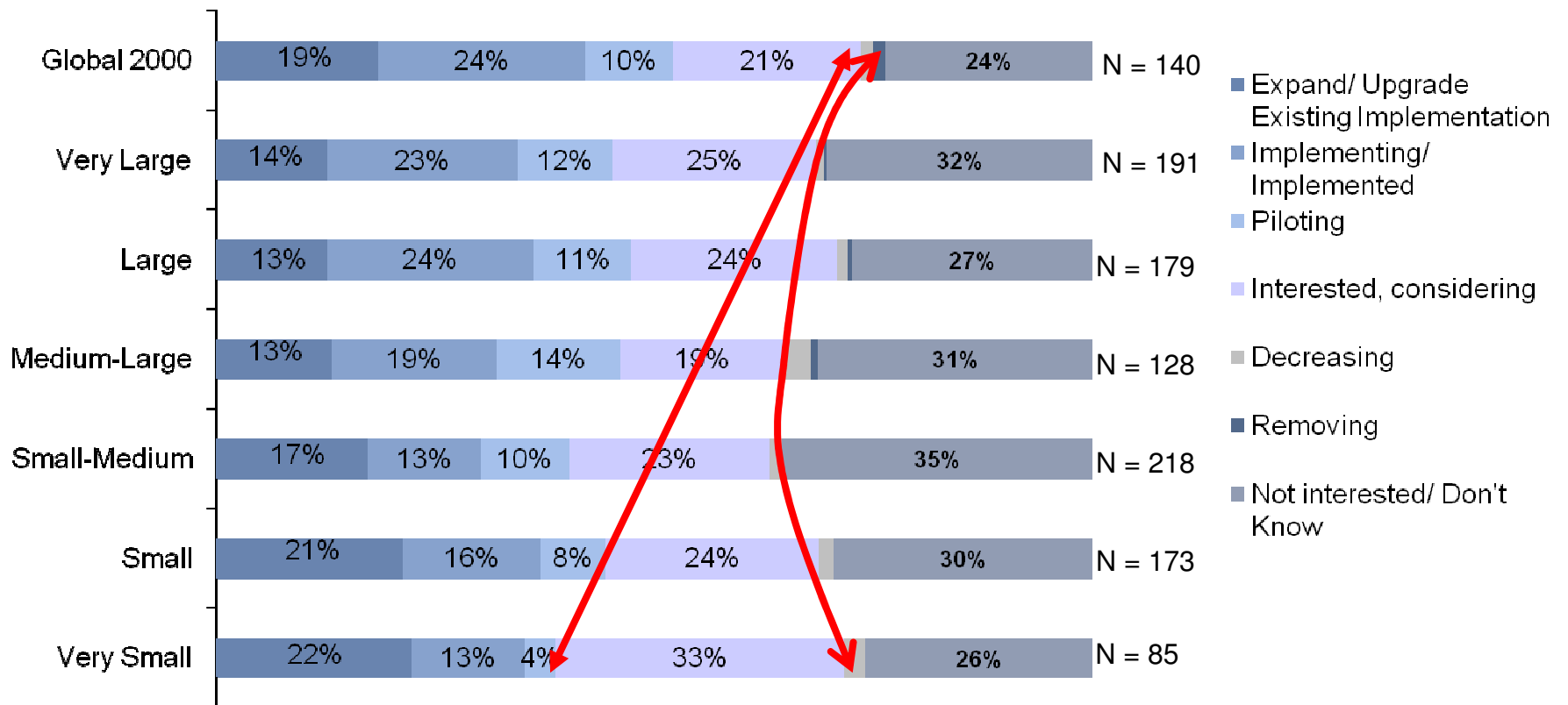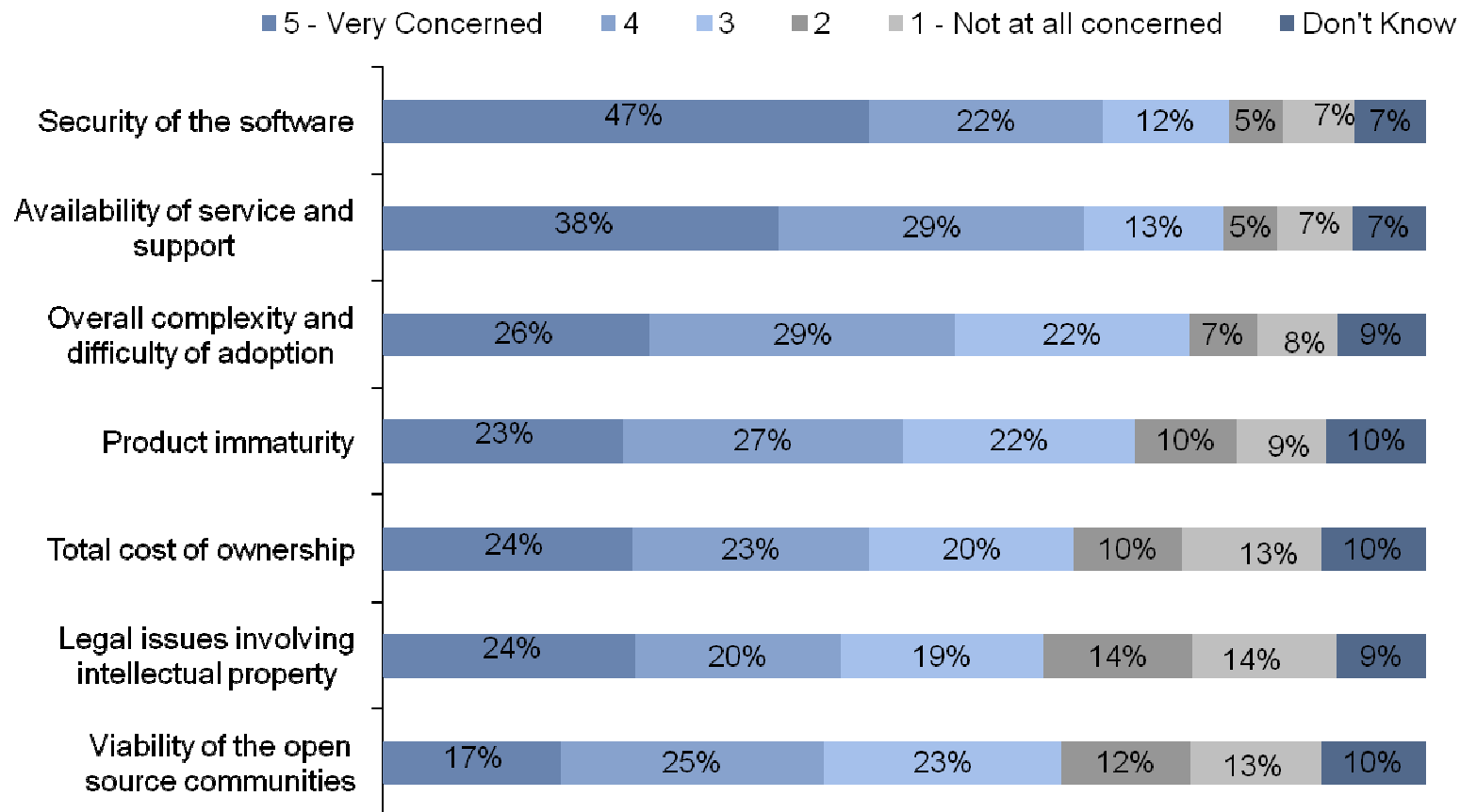FORRESTER®
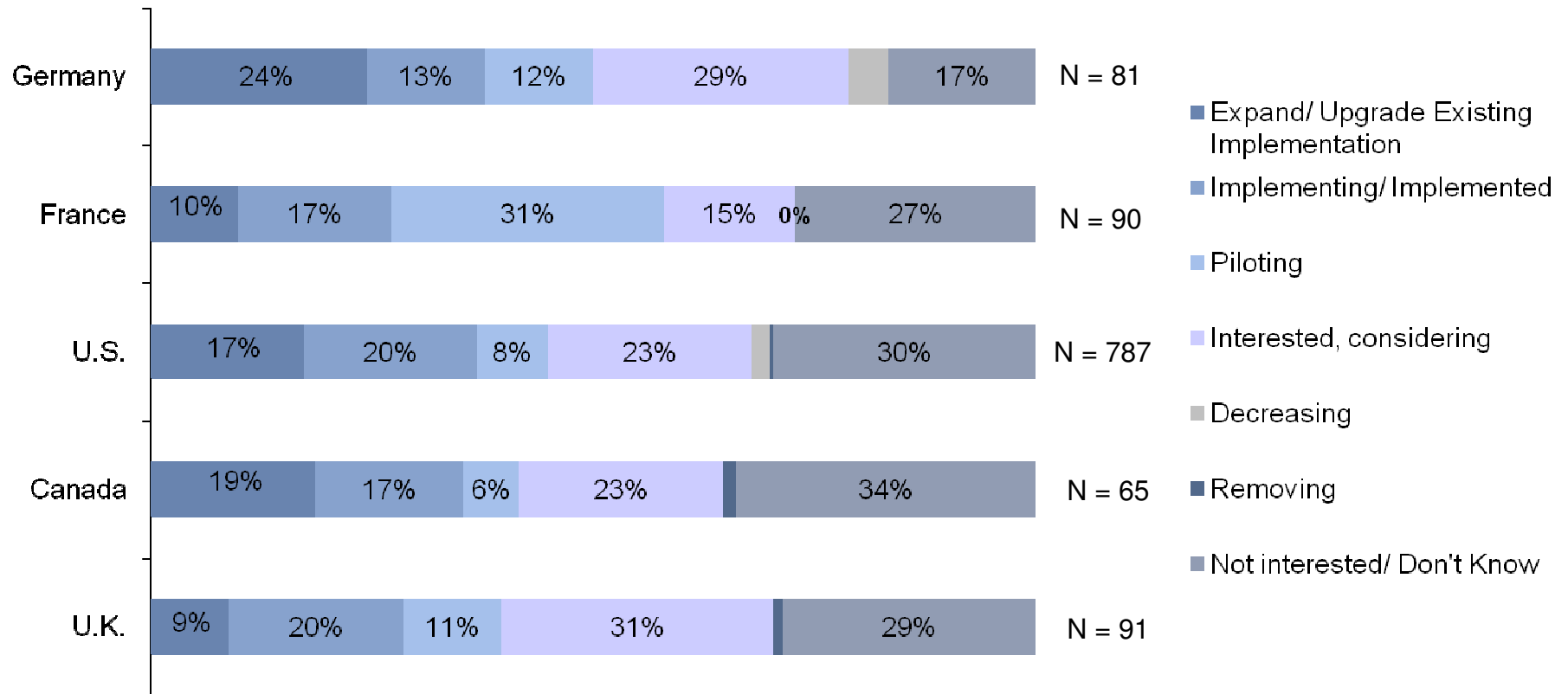
European adoption at the infrastructure level

"Has your organization adopted or does your organization plan to adopt open source software within each of the following <u>INFRASTUCTURE</u> CATEGORIES?"

Category	We adopted more than 24 months ago	We adopted within the past 24 months	We will adopt in the next 12 months
Programming Languages (e.g. PHP, Ruby, Python, Java)	46%	25%	18%
Databases (e.g. MySQL, PostgreSQL, SQLLite)	43%	23%	18%
Web server and networking (e.g. Apache, OpenLDAP, Samba, Nagios, Radius)	43%	20%	12%
Operating Systems (e.g. Red Hat Linux, Suse, OpenSolaris)	37%	24%	16%
Security Tools (e.g. OpenVPN, NetFilter, ClamAV, Snort)	21%	35%	19%
Portals, Web 2.0 and Mash-up servers (e.g. Liferay, eXo, Xwiki, Dapper)	13%	25%	25%
Application server (e.g. JBoss, Glassfish, JOnAS, Tomcat)	16%	19%	25%
Application Frameworks (e.g. Spring, Rails, Zend)	12%	23%	22%
Development IDEs (e.g. Eclipse, NetBeans)	10%	23%	26%

- ■ We adopted more than 24 months ago
- ■ We adopted within the past 24 months
- ■ We will adopt in the next 12 months
- ■ We will adopt after 12 months from now
- ■ We don't use and have no plans to adopt at this point
- ■ Don't know

Base: 102 Senior Business & IT Executives involved in the decision making for open source software technology and related services in large enterprises. Western European OSS Online Survey conducted by Forrester Consulting and commissioned by BULL, September 2008

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European adoption at the application level

"Has your organization adopted or does your organization plan to adopt open source software within each of the following BUSINESS APPLICATION CATEGORIES?"

Category	We adopted more than 24 months ago	We adopted within the past 24 months	We will adopt in the next 12 months
Desktop/Office Productivity (e.g. OpenOffice, StarOffice)	35%	27%	19%
Messaging / groupware (e.g. OpenXchange, eXo, Zimbra)	18%	32%	22%
ERP System (e.g. OpenBravo, Compiere, ERP5)	13%	25%	22%
Business Intelligence (e.g. BIRT, Jasper Reports, Spago, Talend)	7%	26%	25%
CRM Applications (e.g. Sugar CRM, ConcourseSuite)	10%	21%	26%
Content Management Systems (e.g. Alfresco, Plone, Jahia, eZPublish)	10%	21%	25%
ESB / BPM / Workflow (Mule, ServiceMix, JBPM, EBM, Bonita)	10%	14%	23%

- ■ We adopted more than 24 months ago
- ■ We adopted within the past 24 months
- ■ We will adopt in the next 12 months
- ■ We will adopt after 12 months from now
- ■ We don't use and have no plans to adopt this ever
- ■ Don't know

Base: 102 Senior Business & IT Executives involved in the decision making for open source software technology and related services in large enterprises. Western European OSS Online Survey conducted by Forrester Consulting and commissioned by BULL, September 2008

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OSS adoption is strongest at very large and very small firms

"What are you firm's plans to implement or expand its use of open source software in the next 12 months"

Firm size	Expand/ Upgrade Existing Implementation	Implementing/ Implemented	Piloting	Interested, considering	Decreasing	Removing	Not interested/ Don't Know	N
Global 2000	19%	24%	10%	21%			24%	N = 140
Very Large	14%	23%	12%	25%			32%	N = 191
Large	13%	24%	11%	24%			27%	N = 179
Medium-Large	13%	19%	14%	19%			31%	N = 128
Small-Medium	17%	13%	10%	23%			35%	N = 218
Small	21%	16%	8%	24%			30%	N = 173
Very Small	22%	13%	4%	33%			26%	N = 85

Base: 1114 software development decision-makers at North American and European enterprises and SMBs

Source: Enterprise And SMB Software Survey, North America And Europe, Q4 2008

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Telecom, Business Services drive OSS adoption

"What are you firm's plans to implement or expand its use of open source software in the next 12 months"

	Expand/ Upgrade Existing Implementation	Implementing/ Implemented	Piloting	Interested, considering	Decreasing	Removing	Not interested/ Don't Know	N
Utilities & Telecom	13%	18%	13%	30%			24%	N = 119
Services	17%	18%	8%	24%			32%	N = 502
Media, Ent. & Liesure	17%	18%	7%	24%			33%	N = 163
Public Sector	14%	16%	11%	23%			34%	N = 372
Manufacturing	9%	20%	10%	25%			33%	N = 484
Retail & Wholesale	10%	13%	11%	31%			34%	N = 239
Finance & Insurance	11%	15%	11%	22%			39%	N = 334

Base: 2,227 software decision makers at North American and European enterprises.

Source: Enterprise And SMB Software Survey, North America And Europe, Q4 2008

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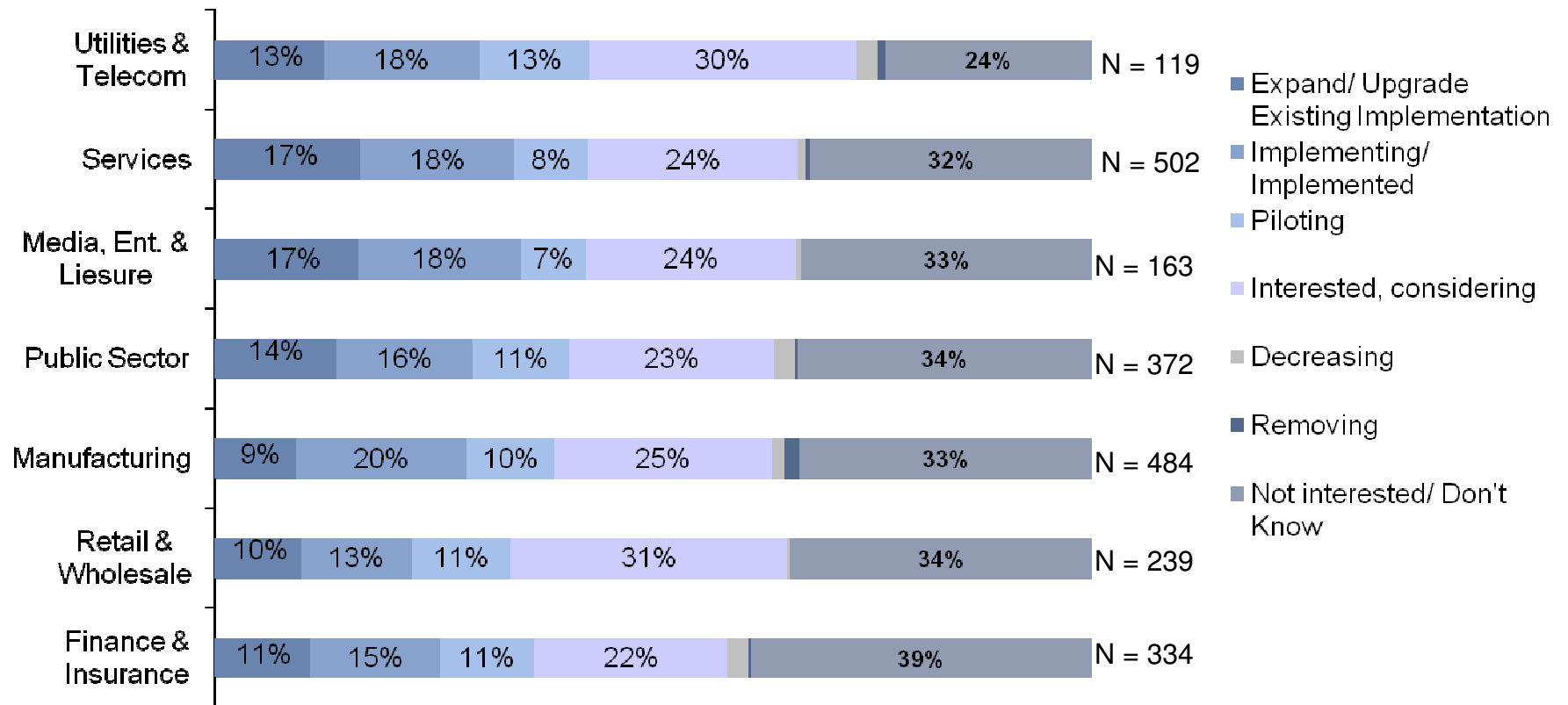
Security and availability of service and support top non-adopters' "very important" concerns with open source

"How important to your organization are each of the following concerns around adopting open source software?"

Legend: ■ 5 - Very Concerned   ■ 4   ■ 3   ■ 2   ■ 1 - Not at all concerned   ■ Don't Know

Concern	5 - Very Concerned	4	3	2	1 - Not at all concerned	Don't Know
Security of the software	47%	22%	12%	5%	7%	7%
Availability of service and support	38%	29%	13%	5%	7%	7%
Overall complexity and difficulty of adoption	26%	29%	22%	7%	8%	9%
Product immaturity	23%	27%	22%	10%	9%	10%
Total cost of ownership	24%	23%	20%	10%	13%	10%
Legal issues involving intellectual property	24%	20%	19%	14%	14%	9%
Viability of the open source communities	17%	25%	23%	12%	13%	10%

Base: 1,322 software decision makers not using OSS at North American and European enterprises.
Source: Enterprise And SMB Software Survey, North America And Europe, Q4 2008

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Europeans Express Lower Anxiety With OSS

"How concerned is your firm about the following aspects of open source software?"

■ North America N= 961   ■ Europe N= 340

	North America	Europe
Security of the software	49%	40%
Availability of service and support	41%	30%
Overall complexity and difficulty of adoption	28%	19%
Legal issues involving intellectual property	26%	19%
Total cost of ownership	27%	16%
Product immaturity	25%	17%
Viability of the open source communities	19%	13%
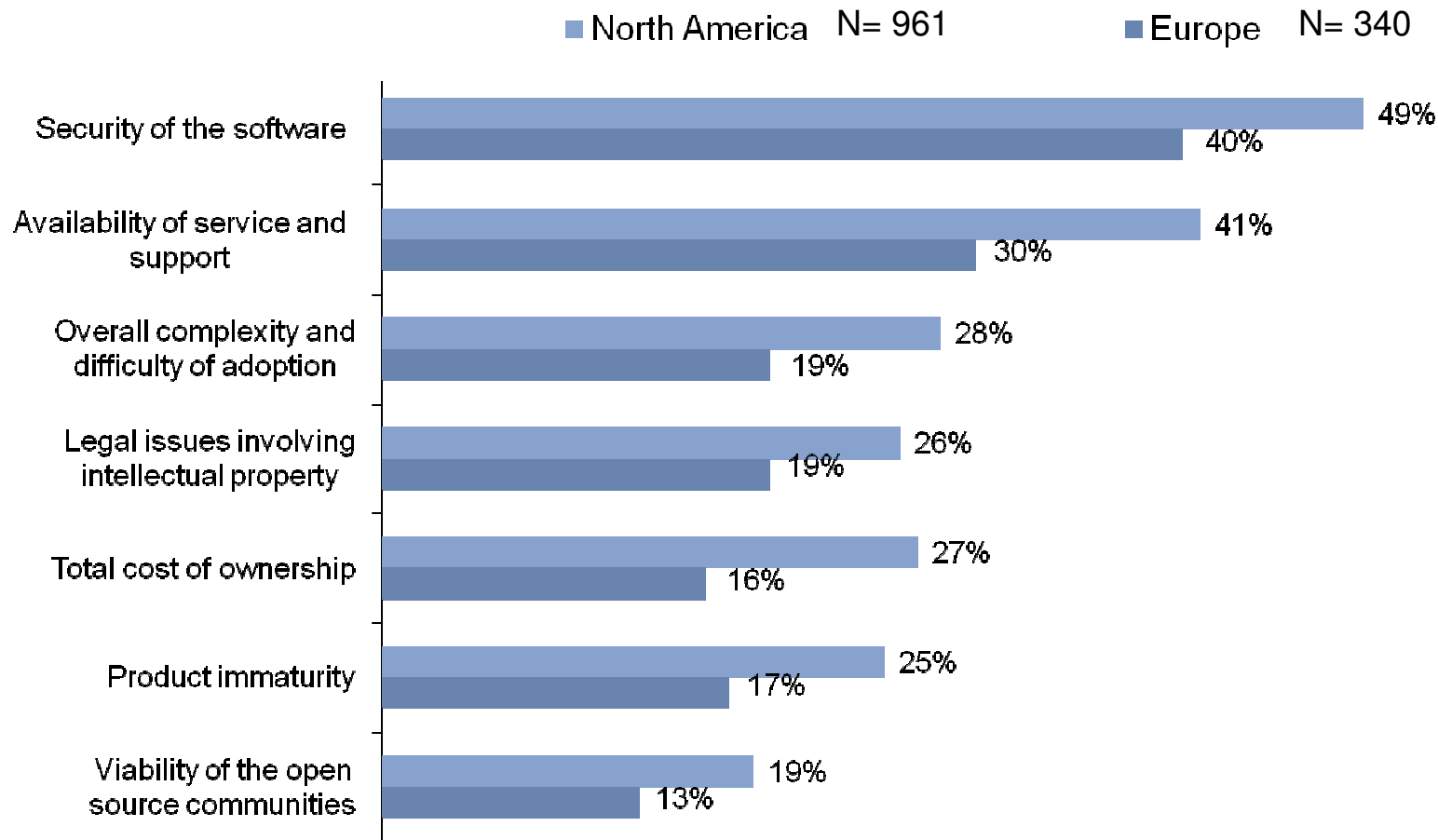
Base: 1301 software decision makers at North American and European enterprises who were not using open source and ranked the concern as "Very Important".

Source: Enterprise And SMB Software Survey, North America And Europe, Q4 2008

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OSS Concerns in 2007

"How important to your organization are each of the following concerns around adopting open source software?"

■ North America N= 82   ■ Europe N= 49

Concern	North America	Europe
Availability of service and support	51%	51%
Security of the software	71%	45%
Total cost of ownership	50%	31%
Legal issues involving intellectual property	31%	22%
Viability of the open source communities	33%	16%
Overall complexity and difficulty of adoption	33%	18%
Product immaturity	24%	12%
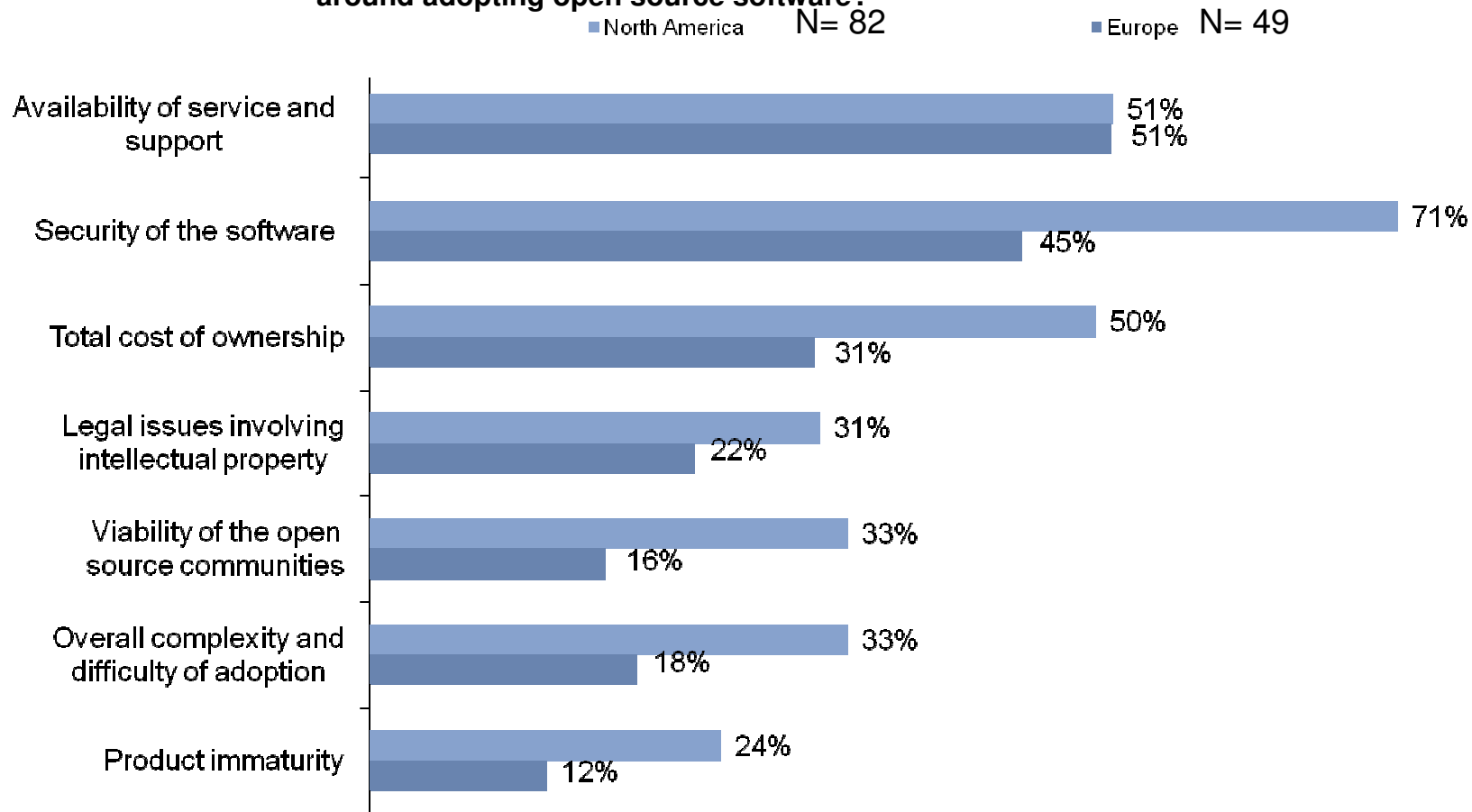
Base: 131 decision makers at North American and European enterprises who were either currently piloting or planning to pilot open source and ranked the concern as "Very Important".

Source: Enterprise And SMB Software Survey, North America And Europe, Q3 2007

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We started with cathedrals and bazaars

Cathedrals
- Organization and Planning
- Design
- Directed Innovation
- Stability
- Hierarchy

Bazaars
- Trade
- Economic Darwinism
- Necessity as the mother of invention
- Exchange of ideas
- Class reform

But We've Moved On To Guilds

Guilds combine
- Organization with Class Reform
- Directed and Accidental Innovation
- Stability with Exchange of Ideas

And now to shopping malls…

The "Mall of Eclipse"

What It Means

- Economic uncertainty and cost pressures create OSS adoption opportunity
- Continental Europeans lead in adoption of and comfort with OSS software
- Very small and very large organizations have "more time than money"
- As OSS business models evolve, concerns over viability and IP are receding
- The enterprise software market and the OSS market are set for an inevitable collision

Agenda

- Market Trends And OSS Evolution
- **Adoption Best Practices**
- An OSS Assessment Model

The 5 stages of OSS acceptance

Stage	Symptoms of progression
Denial that open source is already in use	• No recent audits of custom software • Low awareness of popular OSS components • No official company policy for OSS usage
Anger over a surprise loss of control	• Software in use with no record of adoption • Management looks to assign accountability. • Developers practice "don't ask, don't tell."
Bargaining to re-establish existing controls and processes	• Crash program to identify total exposure • Program put in place to remove existing OSS • Lawyers spend hours meeting with application development teams.
Depression on realizing the point of no return has been reached	• Realization that extracting open source would bring IT to a halt • Recognition that the expense involved in extracting OSS would be prohibitive
Acceptance of open source software	• Implementation of a formal OSS strategy • Adjustments to policies and processes • An attitude shift from tolerance to exploitation

OSS Adoption Best Practices

1. Create a concise OSS policy
2. Re-engineer your software acquisition process
3. Make adjustments to people, processes and tools
4. Join and contribute to OSS communities
5. Vary support sourcing by measured value

Many firms still don't have a policy in place

"Which of the following best describes your firm's formal policy towards OSS software?"
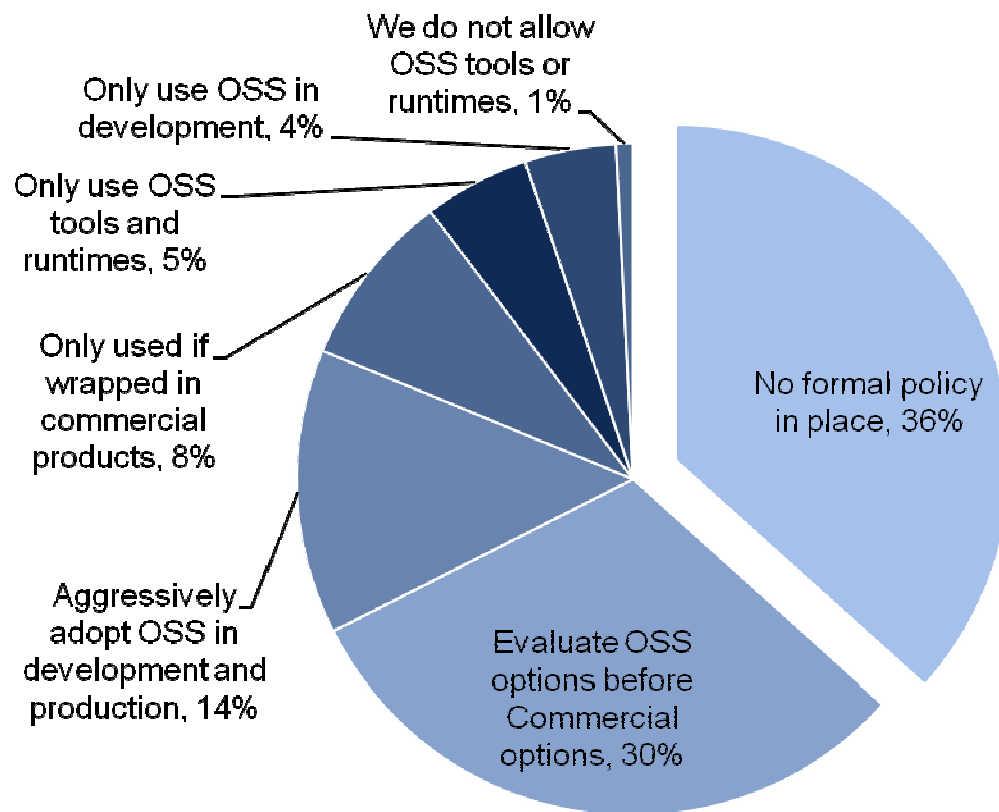
Base: 914 software decision makers using OSS at North American and European enterprises.
Source: Enterprise And SMB Software Survey, North America And Europe, Q4 2008

OSS Policy To Dos:

- Make it short!
- Make it developer consumable
- Involve general counsel early and often
- Classify OSS license types
- Revisit and revise on a regular basis
- Take control of the process
- Measure internalization

Sample Policy Contents

Policy component	What it should specify
Goals of OSS adoption	Justification for using OSS (e.g., cost avoidance, speed, performance, quality)
Acquisition processes: • Method of procurement • Distribution policies • Support policies • RACI matrix	• How will you acquire OSS components? • Where are they downloaded from? • How is dependent code made available? • What's the strategy for providing support? • Who is responsible, accountable, consulted, informed?
Rubric for business case	• How will you determine the total cost of ownership? • What performance service-level agreements are needed?
Guidelines for appropriate use including: • License classification • Usage restrictions • Reporting requirements • Derivative use • Remediation policies	• What are the specific guidelines for developers? • What OSS licenses can be used and where? • When should OSS not be used? • How do projects report their use? • How are modifications handled? • What is done when unreported use is detected?

Bridging from policy to acquisition
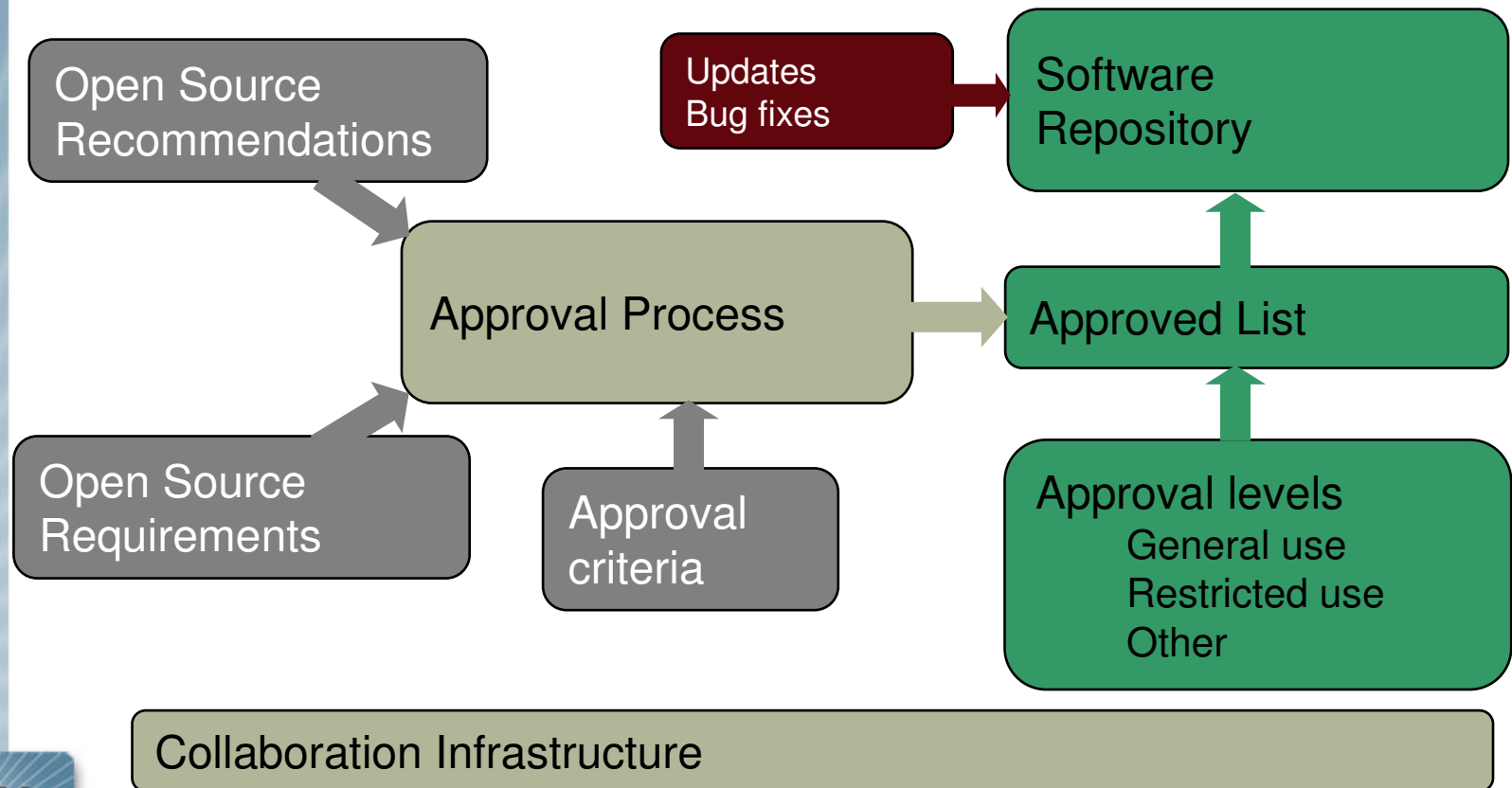
Traditional processes are too slow

Traditional acquisition process
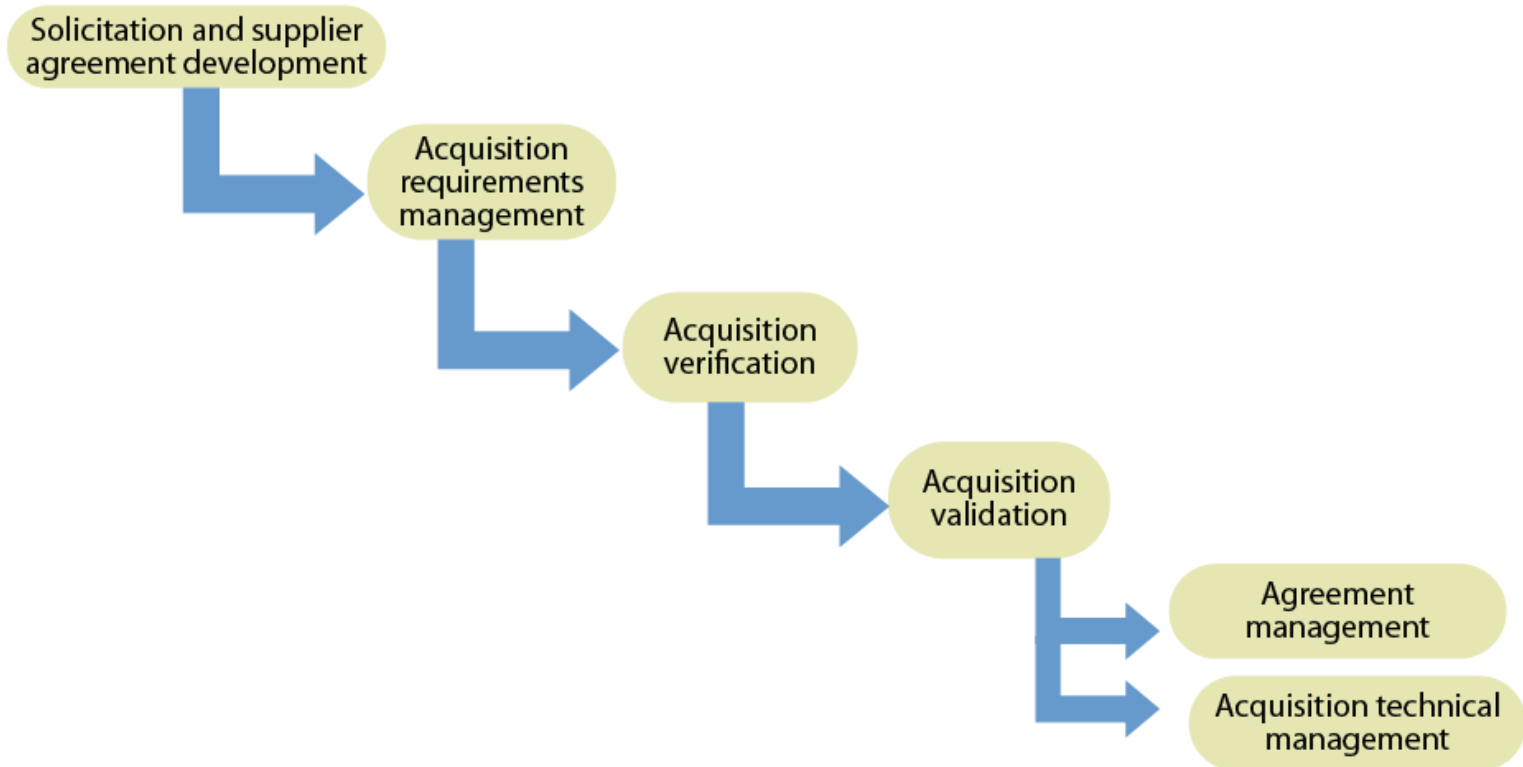
Front-load the process instead

Front-loaded acquisition process

Solicitation and supplier agreement development

Develop master agreements with strategic suppliers that allow rapid acquisition.

Agreement management

Acquisition requirements management

Define customer requirements

Define contractual requirements

Front-load and separate requirements definition from contractual requirements.

Acquisition verification

Acquisition validation

Acquisition technical management

COOs are an easy way to start

CERTIFICATE OF ORIGINALITY (SAMPLE)

1. Basic project information

Project name: _____

Version/release: _____

Brief functional description: _____
_____

2. Details on any portion of the software written by any party other than those listed above:

Name of software from above	Name of portion	Author names	Author affiliation	Ownership details

3. Did you obtain any content from any party or source not listed above?

4. Who owns copyrights in the content?

5. Does anyone charge for the content?

6. Does anyone consider the content to be confidential?

7. What copyright notice is on the content?

Name of submitter: _____

Date: _____

Source: National University Of Ireland Maynooth (research.nuim.ie/enterprise/commercialisation_forms/documents/CertificateofOriginality.doc) and IBM (http://www.vm.ibm.com/download/thirdagr.iagree)

Agenda

- Market Trends And OSS Evolution
- Adoption Best Practices
- **An OSS Assessment Model**

A general rubric for assessing OSS

The software "iron triangle"

Schedule
- Acquisition period
- Development cycle
- Velocity
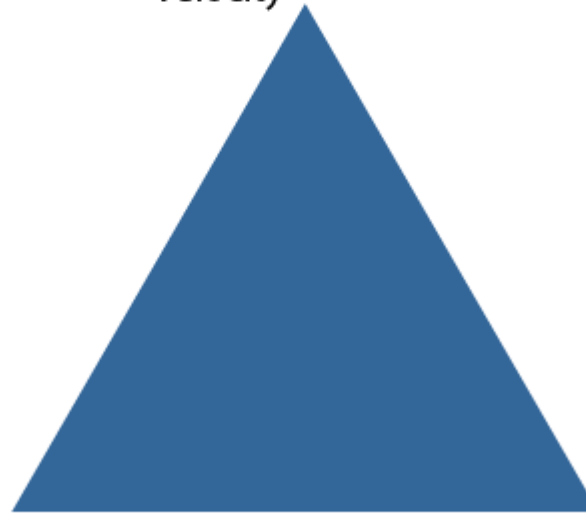
Costs
- Capital expenses
- Operational expenses
- Labor expenses

Capability
- Features
- Quality and "ilities" risks

Evaluate Commercial And Open Source Software Options Using A Multiyear Cost Profile

Example of a simple three-year formula for annualized total cost of ownership (TCO)*

$$TCO = (\text{capital expenses} + 3(\text{operational expenses}))/3$$

Capital expenses =
hardware acquisition + software license acquisition

Operational expenses =
maintenance + power + labor + indirect costs

CAPEX considerations:
- Can commodity hardware suffice, or is specialized hardware required?
- Are license costs a lump sum, or do they increase as deployment scales?
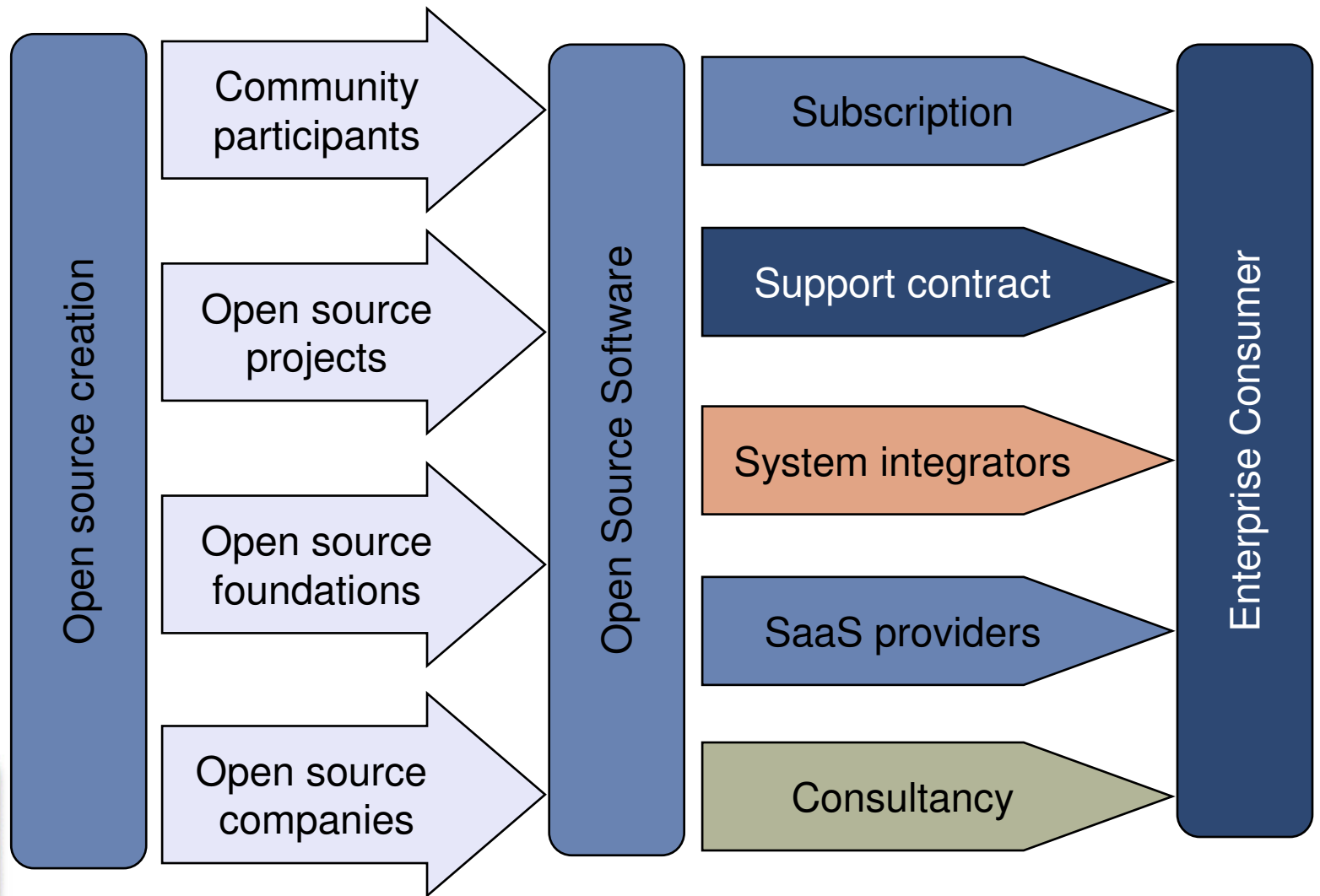- Are software licenses perpetual or fixed-term?

OPEX considerations:
- Are recurring costs optional or mandatory: How much flexibility is there?
- Labor costs include developer and administrator salaries and training fully loaded costs.
- Indirect costs include vendor management, software configuration and administration tools, and the cost of migrating to new platforms.

*For greater precision, use net present value (NPV) calculations for OPEX and break out indirect costs on a separate, annualized basis.

Evaluating OSS project capability

Current offering	Features, frequency & number of releases, bug fixes,
Project governance	Leadership, structure, charter, goals, strategy
Community participation	Number of participants, activity level, frequency of commits
License strategy	Commercial friendly, viral, dual/multi license
Ecosystem	Service, support, extensions, add-ons, training, consulting
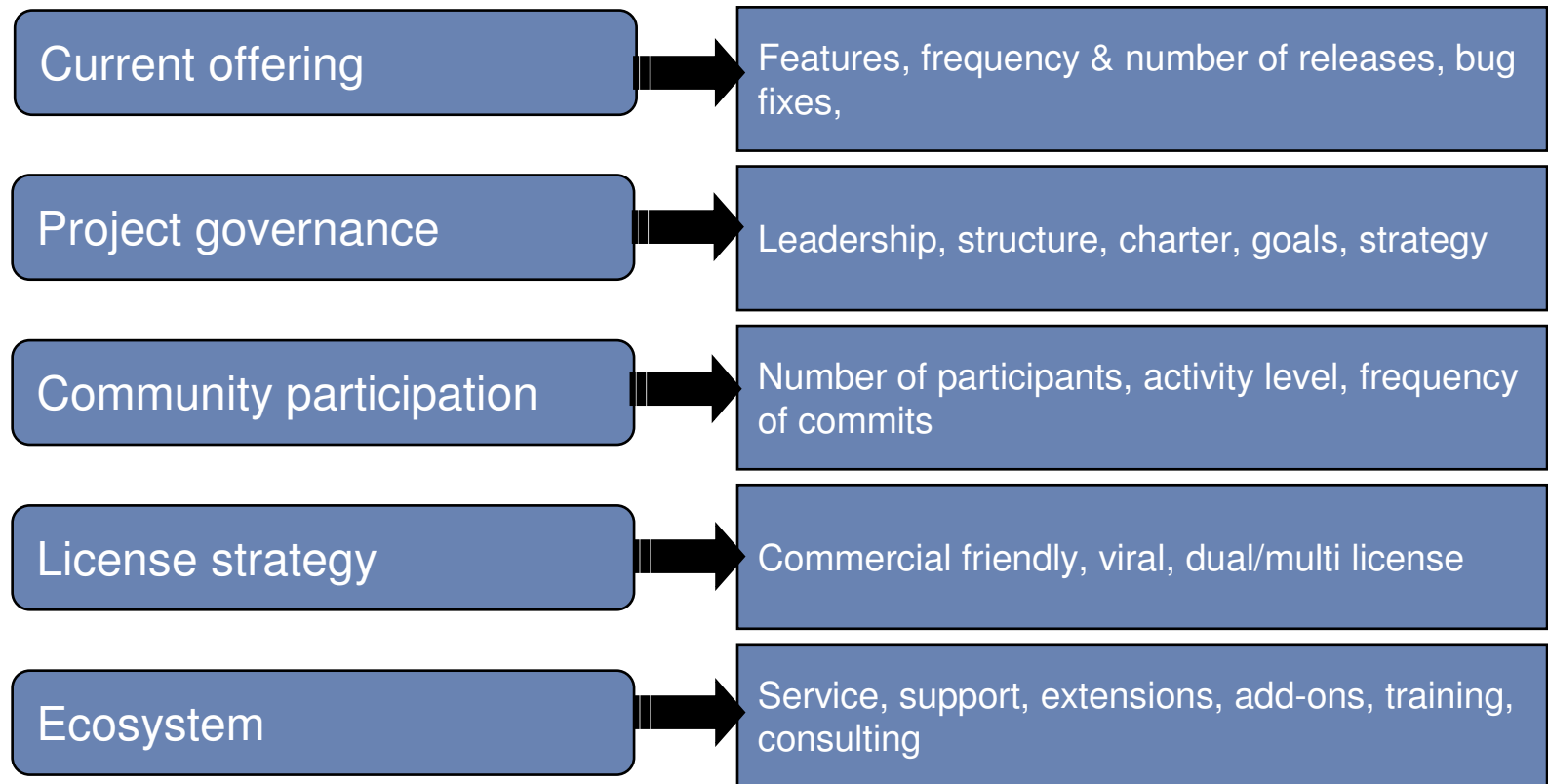
Evaluate the entire ecosystem

Open source creation

Community participants

Open source projects

Open source foundations

Open source companies

Open Source Software

Subscription

Support contract

System integrators

SaaS providers

Consultancy

Enterprise Consumer

Setting priorities for an OSS rollout

Priorities based on technical merits

	Situation Analysis	Example
1	OSS is de facto standard	PHP, Apache Web server Apache Tomcat
2	OSS fills a gap	Ant, Junit, Subversion, Apache Axis
3	OSS is adequate	MySQL, PostgreSQL
4	OSS is better, more innovative	Spring, Hibernate

Setting priorities for an OSS rollout

Priorities based on application type

	Application	Examples
1	Infrastructure	Linux, virtualization, network
2	Development	IDE, version control, testing
3	Middleware	Application server, messaging, database
4	Application frameworks	Struts, Spring, Hibernate
5	Horizontal business	ETL, BI, CRM

Setting priorities for an OSS rollout

Priorities based on skills and platform context

	Skills/Technology	Rationale
1	Java / JEE programmers	Many OSS java projects; seamless skills transfer
2	Dynamic languages	PHP, Python, Ruby, etc. are open source now
3	App dev is outsourced	Appropriate skills can be hired
4	C, C++, Fortran	Fewer relevant open source projects
5	.NET, C#, Visual Basic	Steepest learning curve, fewer choices

Recommendations

- Look to projects with strong committer communities – guilds and malls
- Prioritize projects with commercial support or dual use options
- Start at the base of the application platform and move up
- Be realistic about support for alternative commercial products

Thank you

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