What is the MeeGo project?

Building a modern OS with no strings attached for multiple device segments, merging the best of Moblin and Maemo.

Consolidating the power, resources, and innovation of the leaders in communication and computing.

Facilitating operating system convergence.

MeeGo™

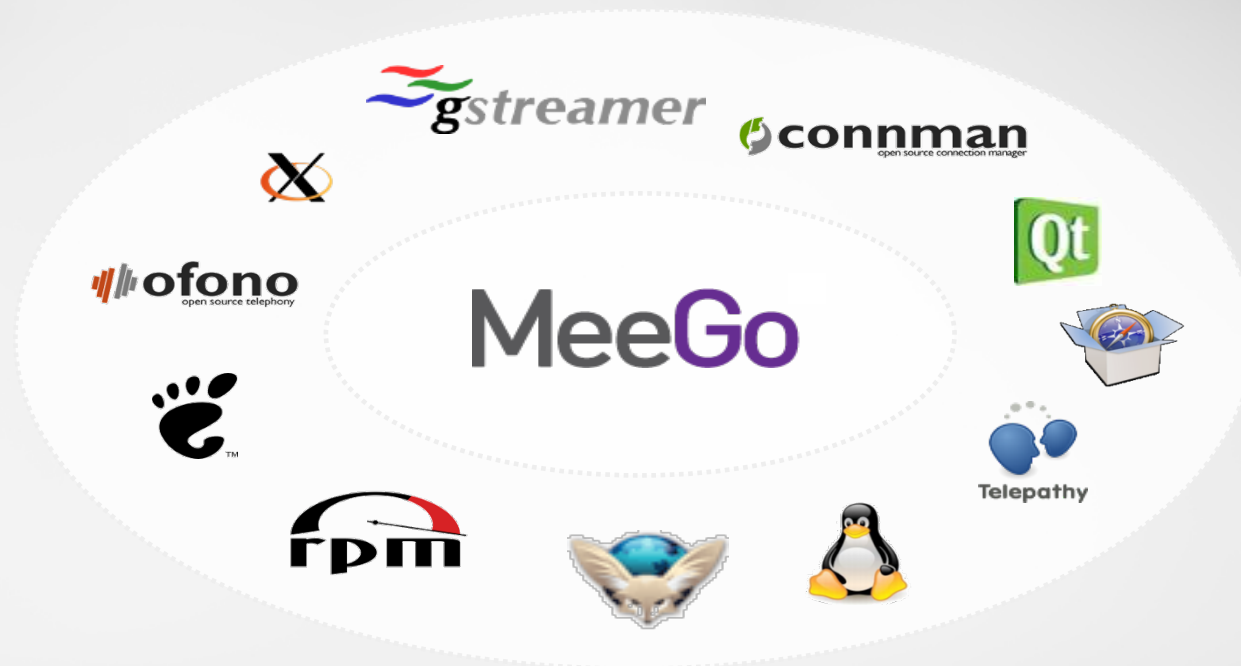# One MeeGo stack for Multiple Segments, Multiple Application Stores, & Multiple HW Architectures

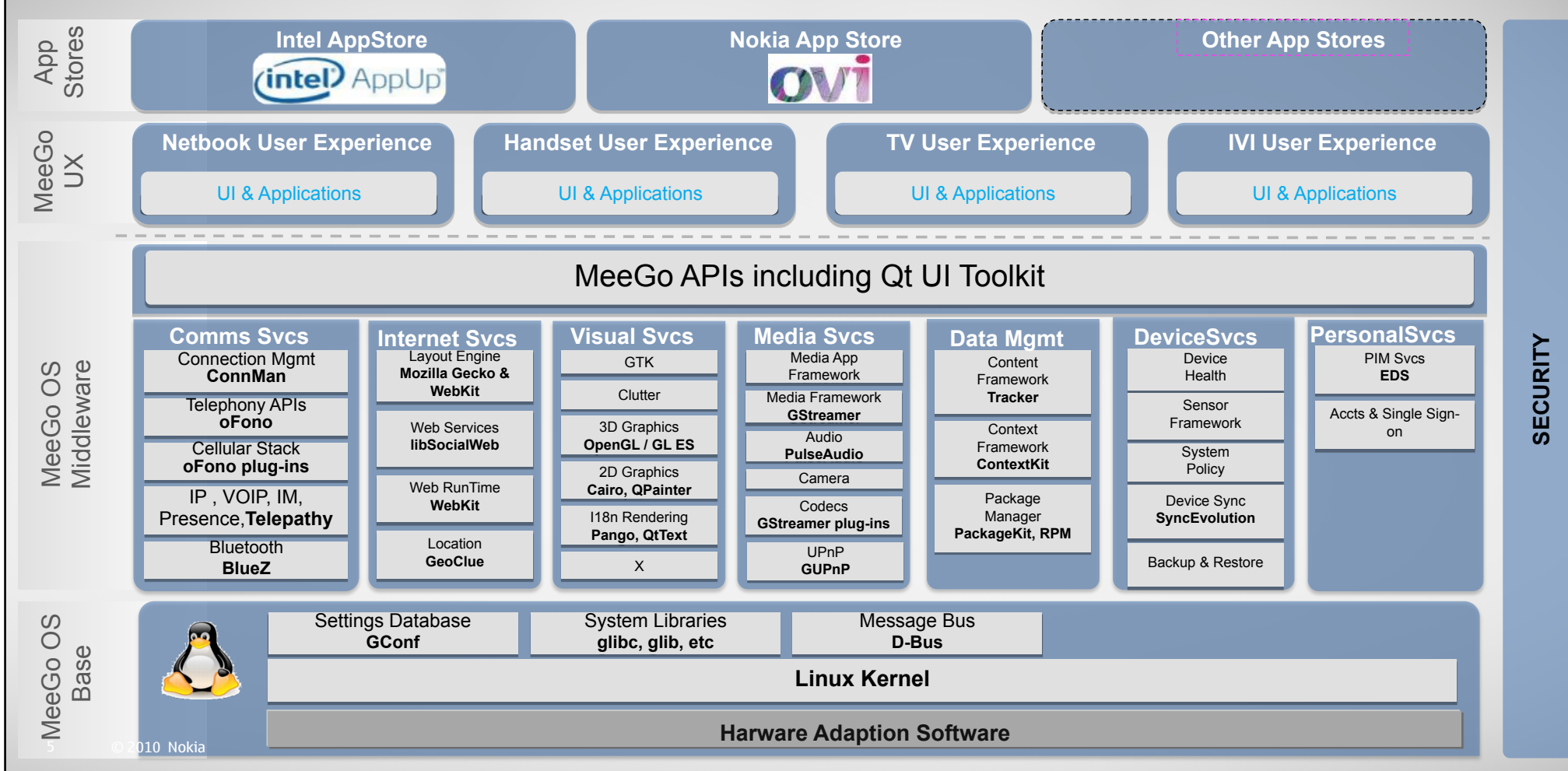**Easy integration to multiple Application Stores**

MeeGo OS

Multiple hardware architectures:
Intel Atom, ARM, others

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MeeGo Linux Stack is Built on Many Open Source Projects

gstreamer
connman
open source connection manager
X
Qt
ofono
open source telephony
MeeGo
Telepathy
rpm

MeeGo™

MeeGo Architecture

App Stores

Intel AppStore	Nokia App Store	Other App Stores
intel AppUp	ovi	

MeeGo UX

Netbook User Experience	Handset User Experience	TV User Experience	IVI User Experience
UI & Applications	UI & Applications	UI & Applications	UI & Applications

MeeGo OS Middleware

MeeGo APIs including Qt UI Toolkit

Comms Svcs
- Connection Mgmt **ConnMan**
- Telephony APIs **oFono**
- Cellular Stack **oFono plug-ins**
- IP , VOIP, IM, Presence,**Telepathy**
- Bluetooth **BlueZ**

Internet Svcs
- Layout Engine **Mozilla Gecko & WebKit**
- Web Services **libSocialWeb**
- Web RunTime **WebKit**
- Location **GeoClue**

Visual Svcs
- GTK
- Clutter
- 3D Graphics **OpenGL / GL ES**
- 2D Graphics **Cairo, QPainter**
- I18n Rendering **Pango, QtText**
- X

Media Svcs
- Media App Framework
- Media Framework **GStreamer**
- Audio **PulseAudio**
- Camera
- Codecs **GStreamer plug-ins**
- UPnP **GUPnP**

Data Mgmt
- Content Framework **Tracker**
- Context Framework **ContextKit**
- Package Manager **PackageKit, RPM**

DeviceSvcs
- Device Health
- Sensor Framework
- System Policy
- Device Sync **SyncEvolution**
- Backup & Restore

PersonalSvcs
- PIM Svcs **EDS**
- Accts & Single Sign-on

MeeGo OS Base

Settings Database **GConf**	System Libraries **glibc, glib, etc**	Message Bus **D-Bus**

Linux Kernel

Harware Adaption Software

SECURITY

MeeGo consumer promise:
Personalized Internet on the Go

Delivering the best web experience

- Delivering the leading browser experience

- True Adobe Flash integration

Always online on the Go

- Always-connected software design delivering a prompt-free experience

- Power consumption and network optimization across the whole software stack
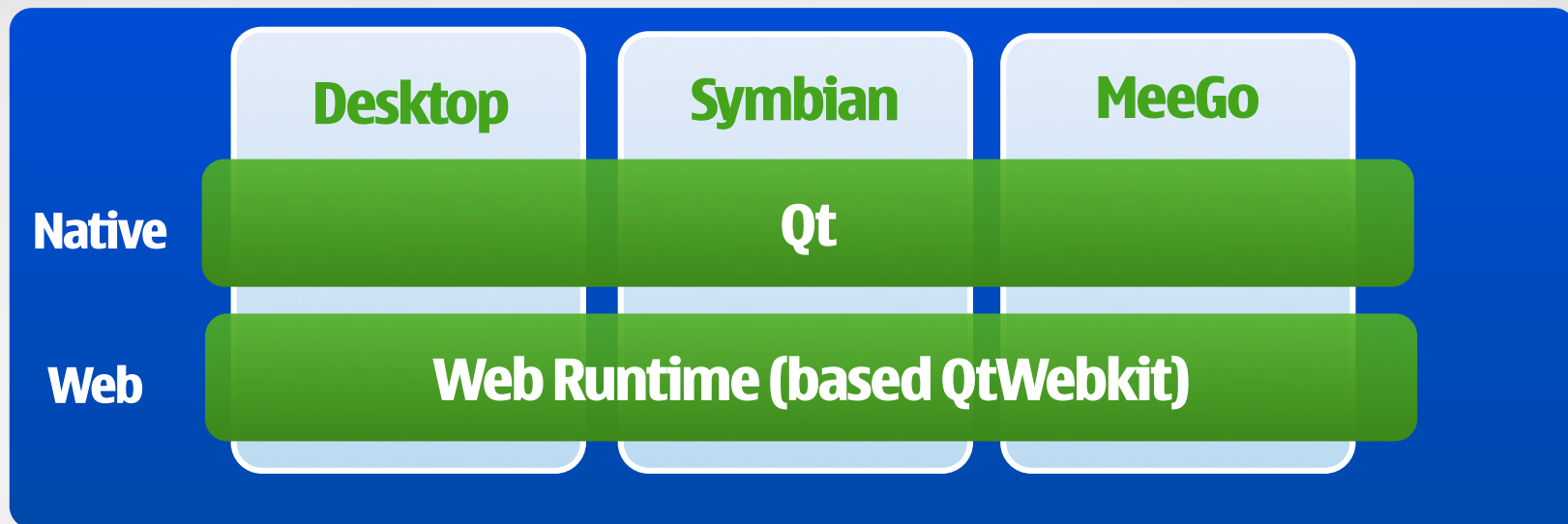
Personalization with Native Applications

- 1,000s of Qt apps leveraging the installed base of MeeGo devices in multiple categories

- Delivered with a renewed experience in Intel AppUp Centers and Ovi Store

MeeGo™

Our developer promise:
One API – multiple device categories

- **One** MeeGo API based on Qt
- **Fastest** growing installed base
- **Lighting fast** Qt Creator IDE tool
- **Global reach** of distribution channels **with Dedicated** go-to-market programs
- **Proven Qt** track record in CE devices

MeeGo built with Qt expands Developer opportunities

	Desktop	Symbian	MeeGo
Native	Qt		
Web	Web Runtime (based QtWebkit)		

One code base can address multiple consumer screens

MeeGo application ecosystem

1000s of Qt cross-platform apps + **1000s of web runtime apps** + **100s of native Linux apps** + **Operator service apps**

Millions of MeeGo devices from dozens of companies

MeeGo™
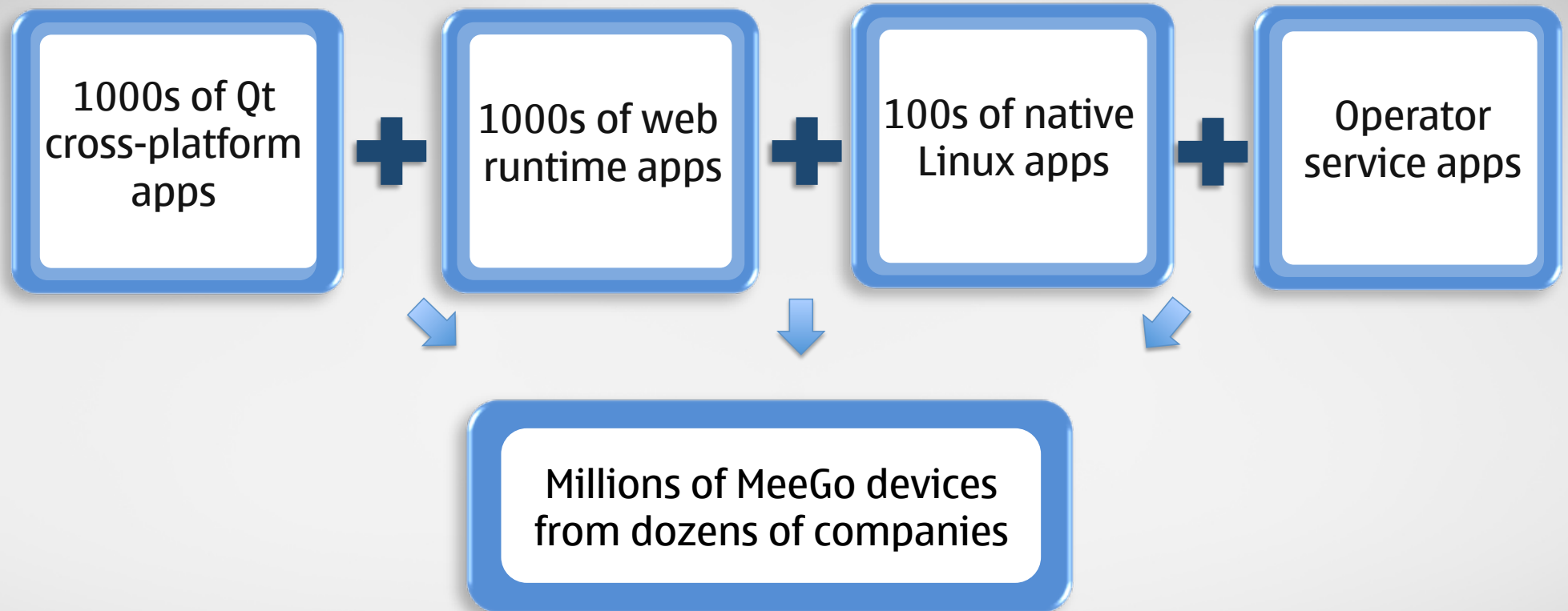
Qt Application Framework
Cross platform application development

Qt SDK

Qt modular class library

Core	XML
GUI	Multimedia
WebKit	Database
Graphics View	Network
Scripting	Unit Tests
OpenGL	Benchmarking

Qt development tools

Qt Creator
Cross-platform IDE

Qt Designer
ner

ant
Help reader

Qt Linguist
set

qmake
Cross-Platform
Build Tool

Cross-platform support

Windows	Mac	Linux/X11	Embedded Linux	Maemo/ MeeGo	Symbian	Windows Mobile	WinCE

Chipsets
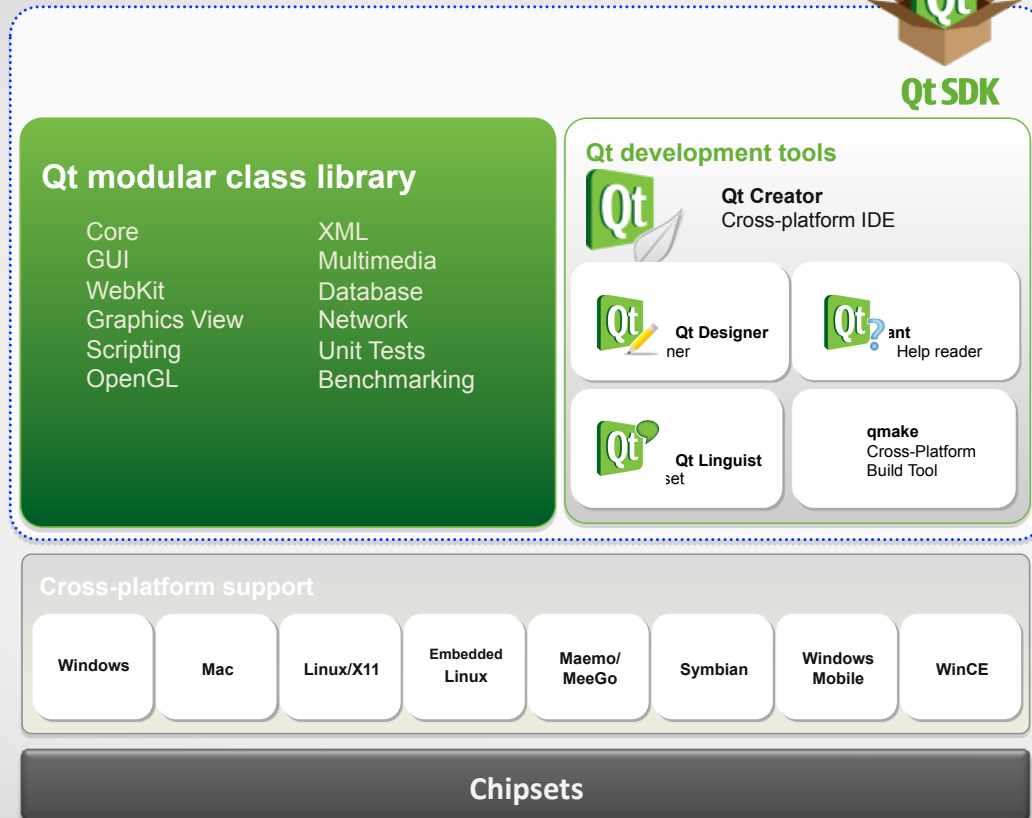
Desktop, web, mobile and embedded software development

Fast, efficient programs

Allows developers to focus on value added functionality instead of infrastructure code

Used by more than **350,000** developers around the globe

Write **code once** to target multiple platforms & OSes

Market Needs / Roadmap Drivers

Up to Qt 4.5

Cross-platform requirement

Improve developer efficiency

Qt 4.5

Better out-of-the-box experience for developers

Best possible runtime performance

Qt 4.6

Expanded support for embedded,smartphone development

Enablers for cutting edge UI development

Future direction

Developer & designer collaboration, declarative UI

Deeper support for web/native hybrid development

2008   2009   2010

Qt is hot in multiple screens today

Slate/Pad/E-Reader

- Windows XP/7 and/or Linux-based OS
- Create Qt-based SDKs and Applications/Services
- Multi-touch and Gesture

Key Success: Asus EEEpc, Skype Phone, E-Reader, EEE tablet

Home & Entertainment

- Chipset pre-integration
- Online Content and services delivery
- Performance and WebKit Integration

Key Success: TCL MiTV, NetFlix, CNTV

Mobile Applications

- Major improvements in overall performance
- Next generation mobile UI
- Nokia mobile platforms

Key Success: AccuWeather, Shazam, many on

Automotive Infotainment

- Connected & innovative user experience
- Terminal Model
- Qt for Windows CE

Key Success: Genivi, Visteon, MagnetiMarelli

Code less.
Create more.
Deploy everywhere.

Qt Openness

First Step

Enter into new ERA - Qt is Now Open

Rationale for Nokia to add LGPL
- Make it easier for commercial users to choose Qt
- Increase Qt Ecosystem
  - Increase available Qt developer competence
  - Provide more business opportunities based on Qt
- Improve Qt through valuable feedback and community contributions

Increased use of Qt

Faster pace of innovation = a better Qt

More feedback & contributions

Larger Qt ecosystem

Open Source

Commercial
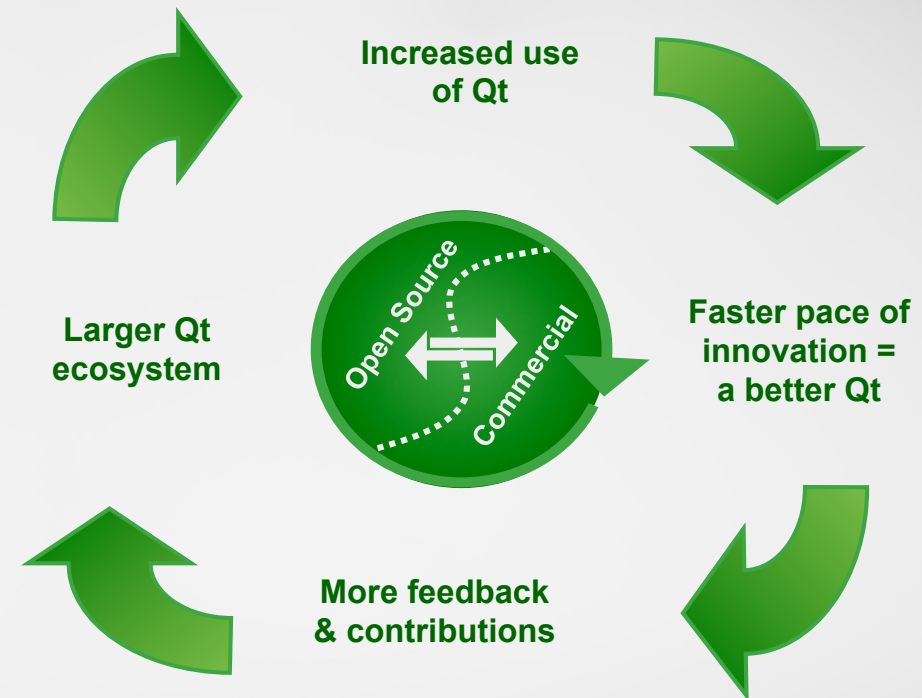
Open Qt Development Model

True Open Source project working model

- Development - Source Code management system
- Bug Track system
- Roadmap

Source Code Management System

- Git
  - A distributed revision control system
  - Used by Qt, Linux, Android, Gnome, Perl...
- Gitorious
  - A web based project host for collaborative open source projects using the Git distributed revision control system
  - Used by Qt, OpenSuse, MeeGo...
- Bring many interesting projects
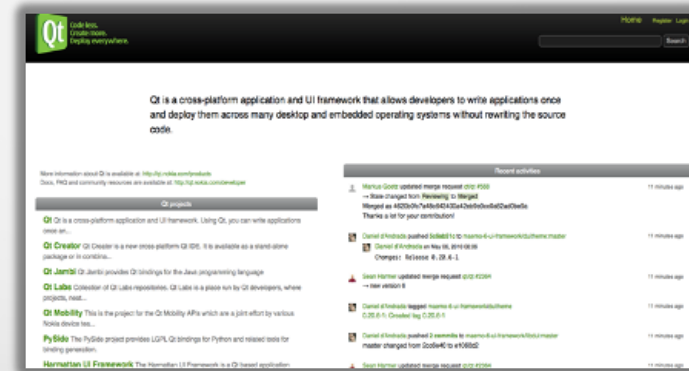
Bug Track System

You can
- Find a bug
- Report a bug
- Keep track of reported bug
- Vote a bug

- Both external people and Qt developers are working at the same system!
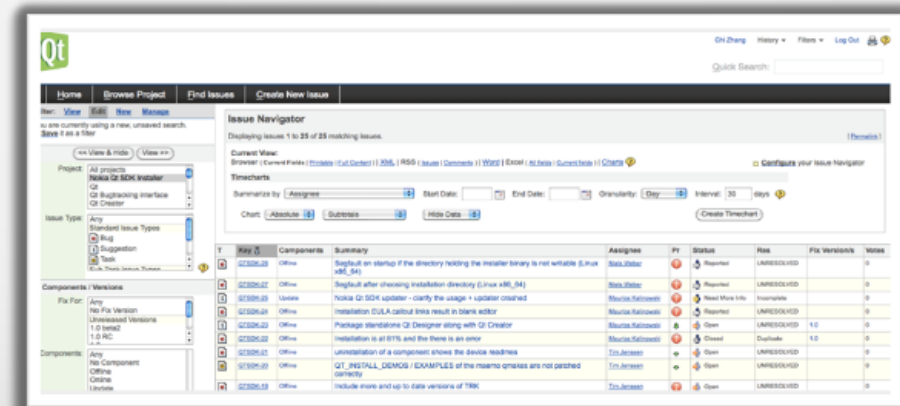
Roadmap

We open our product direction for discussion:

- Public Qt Roadmap
- Qt Labs
- Blogs
- Validation Meetings

Expected Delivery: 1st Half 2010	Expected Delivery: 2nd Half 2010	Active Research Projects
Improved performance	**API Completeness**	**Framework research**
▪ New metrics showing performance improvements	▪ Telephony Events API	▪ Hybrid application development
	▪ Camera API	▪ Qt 3D portability API
Enabling cutting edge UI development	▪ Service Framework	▪ New embedded Linux architecture
▪ Declarative UI programming	▪ Landmarks API	▪ Improved build system
	▪ Maps/Navigation API	
	▪ Document Gallery API	▪ Next generation widgets
Qt Tools	▪ Calendar API	
▪ Smart Installer for Symbian	▪ Vibra API	▪ HTTP improvements for Rest
▪ Continue and enhance Eclipse and Visual Studio plug-ins	**Qt Tools**	▪ File IO improvements
	▪ Qt Quick Designer	▪ OpenCL
		Tools research
		▪ Hybrid application development
		▪ Community and collaboration tools

Qt Contributions & Workflow

Developers can submit patches and add-ons, or help jointly develop new features in Qt

Clone Qt on Gitorious

Make your modifications

Review & Agree Contribution Agreement

Submit for Merge

Reviewed by Qt Developers

Legal Scan

What can I contribute?

- You can contribute to Qt and Qt tools
- Suggestion list for discussion:
  - Performance improvements
  - Benchmark improvements
  - Optimizations for platforms / devices
  - Power-consumption optimizations
  - Localization!
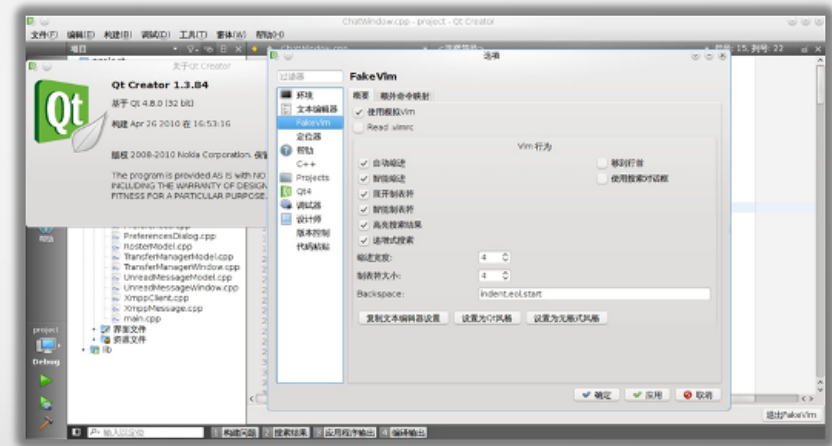
Qt Governance

Evolving towards Transparency

What is Open Governance?

Planning in public
Technical & content discussions in public on mailing lists, IRC & wikis
Conclusions from off-line meetings are made available to the public

Development in public
Internal and external development happens the same way – in public
Degree of influence derives from level of contribution

Merit-based authority
Authority to decide is given based on merits earned in the community, not by your employer

Product info remains secret
Information about un-released products private, all other is in the open

Qt Roadmap to Open Governance

Decide the open governance model – target state defined for change project

2009

Open Qt to external contributions.

Open Dialogue

Change project

End of 2010

Change project executed.

Move to the new governance.

Early June 2010

Make public intent announcement.

Open mailing lists and wiki for public discussion about the Open governance model.
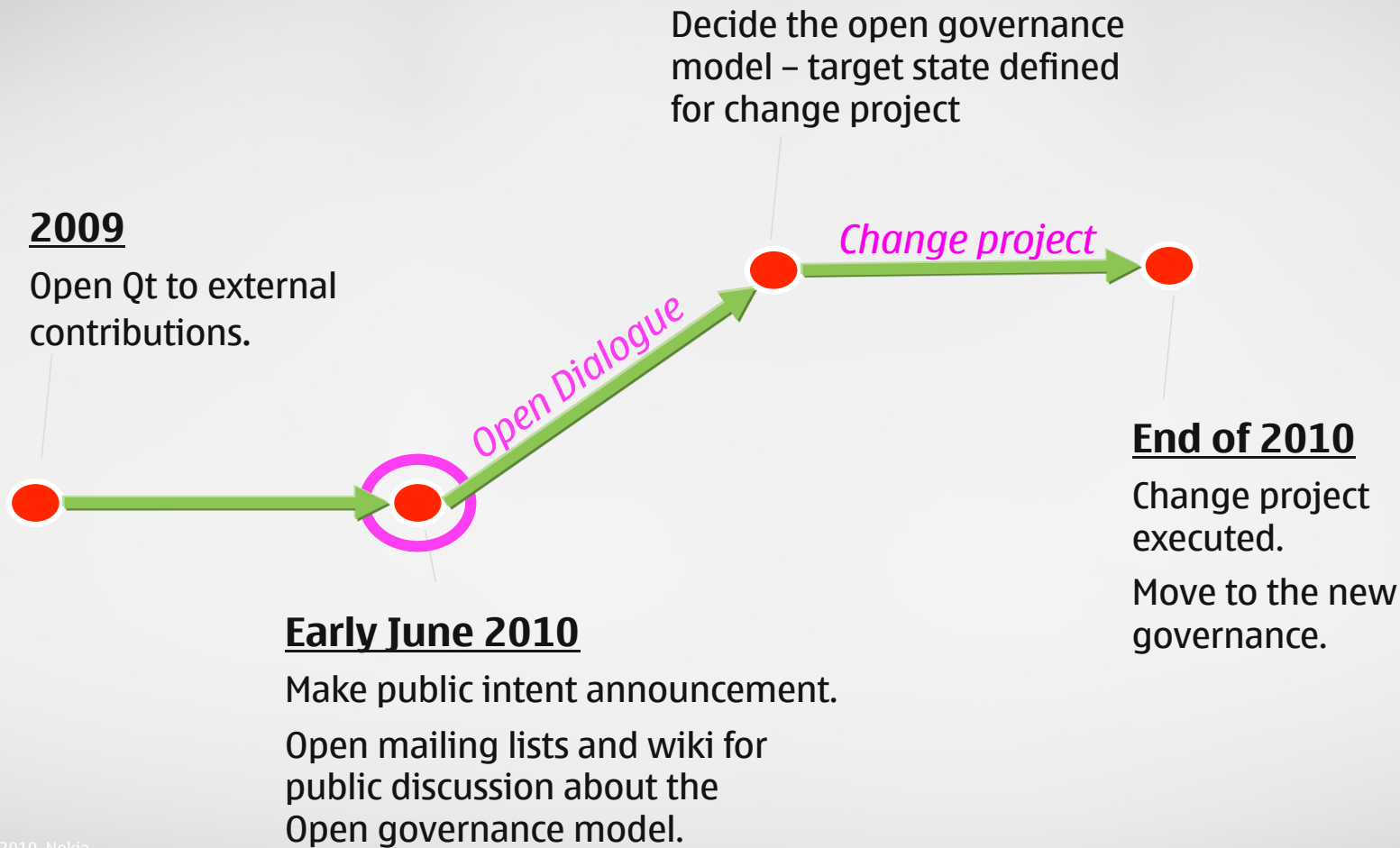
Benefits?

- Drive Qt for projects needs

- Have a hand in the control of Qt's evolution

- Freedom to innovate

- Fast path from contribution to productization (not relay on us)

MeeGo working model

Leveraging industry players

Way of Working:
Applying proven open source processes

Upstream Open Source Projects

MeeGo Component Projects

MeeGo project

3rd Party Apps

MeeGo on chipset

Operating System Vendors

Closed Source

Codec

MeeGo-based Devices
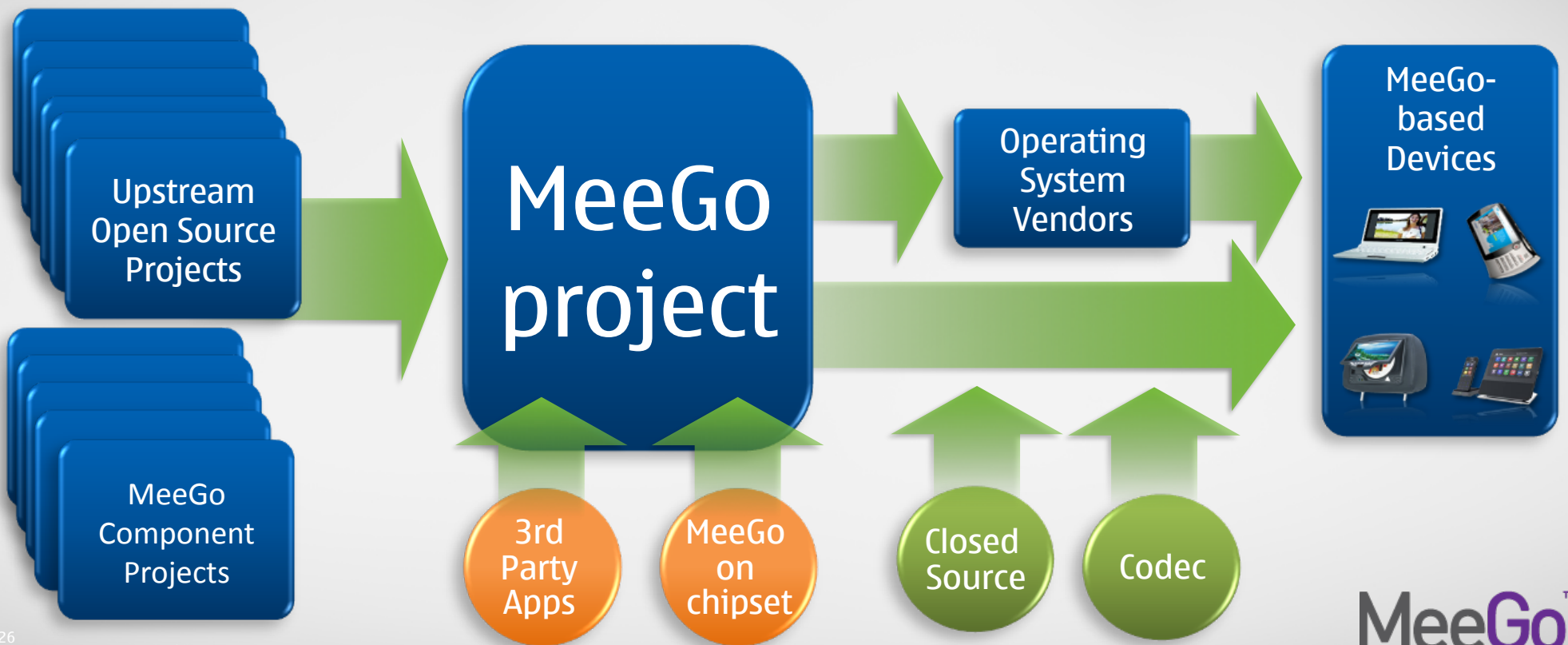
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MeeGo Organization Structure

The Linux Foundation

MeeGo Technical Steering Group

Program Office

- Core Program
- Handset Program
- Netbook Program
- IVI Program
- Tablet Program
- Connected TV Program

- Technology Development
- Distribution Development
- UI Design
- Release Engineering
- Quality Assurance
- Support (IT, Legal, Documentation, Localization)

Community Office

- Handset WG
- Netbook WG
- IVI WG
- Tablet WG
- Connected TV WG

Working Groups

- Working Groups are Delegates of the TSG

- WG responsibility
  - Defines the requirements
  - Release Management for the vertical UX
  - SW component licensing within overall MeeGo policy
  - Appoint leaders and maintainers for WG projects
  - Conflict resolution for WG projects

- Defines the vertical UX compliancy profile specification

- Liaison with institutions within the vertical industry

Technical Steering Group

- Membership and guidelines
- Initial membership is Intel and Nokia, serving as co-chairs
- Membership expands based on meritocracy, contributions, and commitment to MeeGo; expect to add 3 to 8 members to the TSG over the next year
- All meetings of the TSG are open, and all TSG decisions and meeting minutes are published on the MeeGo project website

- TSG responsibilities
- Appoint Project leaders, maintainers, and WG members
- SW Compliance, Licensing and Trademark use
- MeeGo Platform Advocacy and Outreach
- Conflict resolution for projects
- Represents the MeeGo project

Summary

Qt	MeeGo

Both running under Open-Source model
Benefit each other

- Cutting Edge graphic and web-enabled SDK

- Cross-platforms applications development across desktop, web, mobile and embedded platforms and different screen size

- Rich ecosystem of developers and applications/ services already existing

➤ Complete open OS stack for different device type

➤ large pool of applications and services, through Intel AppUp and Nokia OVI Store

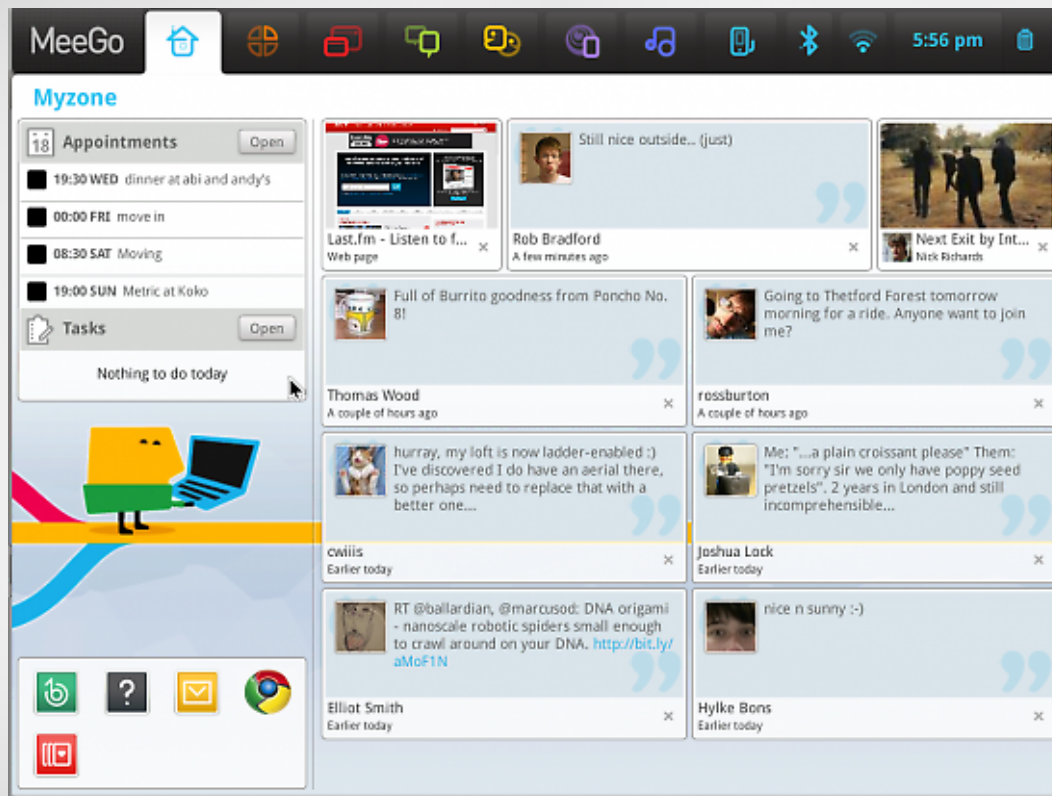➤ More innovation, smaller overhead, quicker time-to-market

MeeGo Today

Netbook + Handset + IVI

First complete UX Profile
MeeGo v1.0 Netbook

Visually rich user experience

Instant access to calendar, tasks, appointments, and social networks through the home screen.
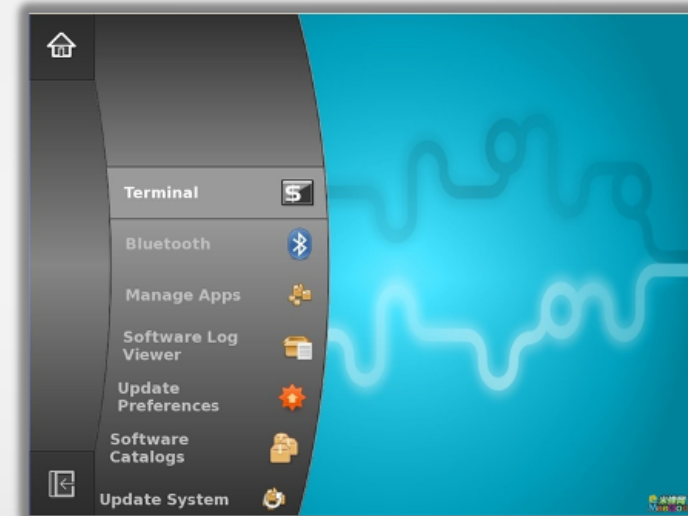
MeeGo Handset UX Day 1

Running on both Moorestone and N900

Enhanced Qt framework - MeeGo touch UI framework

MeeGo IVI 1.0
Genivi select MeeGo

- GENIVI will be an active member of the MeeGo IVI working group.

- Because MeeGo is the best distribution for user centric devices where speed, size, power consumption and usability are key factors.

- Chosen by BMW, GM, Hyundai

Roadmap 2010

30 March 2010	26 May 2010	June 30 2010	Q4
Code open of MeeGo 1.0 OS	MeeGo 1.0 Netbook UX complete	Code open of MeeGo 1.1 Tablet and Handset UX	MeeGo 1.1 Core OS complete MeeGo 1.1 Handset UX, Tablet UX, Netbook UX, In-Car-Infotainment UX complete

Join the MeeGo project

Acer, Amino, Asianux, Asus, BMW Group, Collabora, Ltd., CS2C, DeviceVM, EA Mobile, Gameloft, Hancom, Intel, Linpus, Maemo Community Council, Mandriva, Metasys, Miracle, MontaVista Software, Nokia, Novell, Orange, PixArt, Red Flag, ST-Ericsson, Tencent, Telecom Italia, TurboLinux, VietSoftware, Wind River, WTEC, and Xandros.