Nokia Enterprise Voice Solutions

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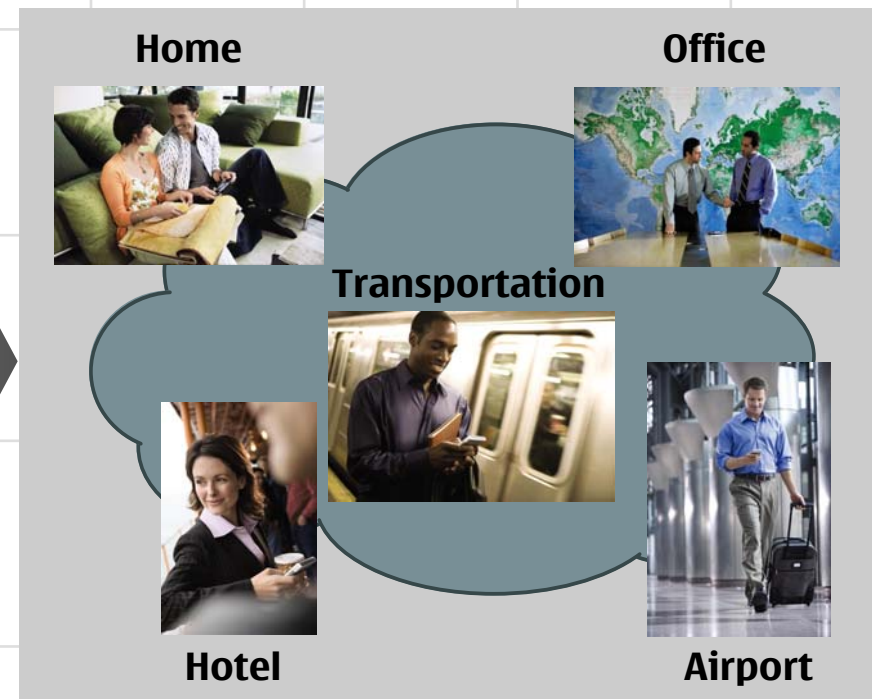# Trends Driving Communications Complexity— Mobility and Virtualization

- By 2007 "telework" will be practiced by more than 60 million people
- More than 66% of workers will use mobile and wireless computing

Source: Gartner Management Update 2004

Today

Work Comes to People

Traditionally

People Went to Work
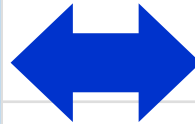
Home

Office

Transportation

Hotel

Airport

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A converged fixed-mobile voice solution combines the strengths of...

Mobile Voice
Mobility and ease of use
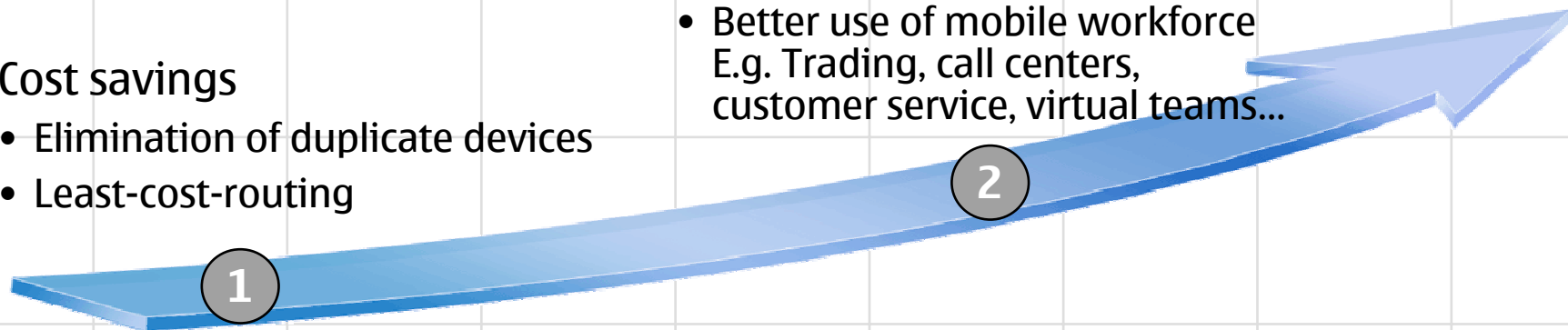
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Enterprise Telephony
Control and functionality

PBX

- One business number, one voice mail
- PBX services on mobiles
- Routing of mobile calls to enterprise IP network
- Central management

Productivity
- Better use of mobile workforce
  E.g. Trading, call centers,
  customer service, virtual teams...

2

Cost savings
- Elimination of duplicate devices
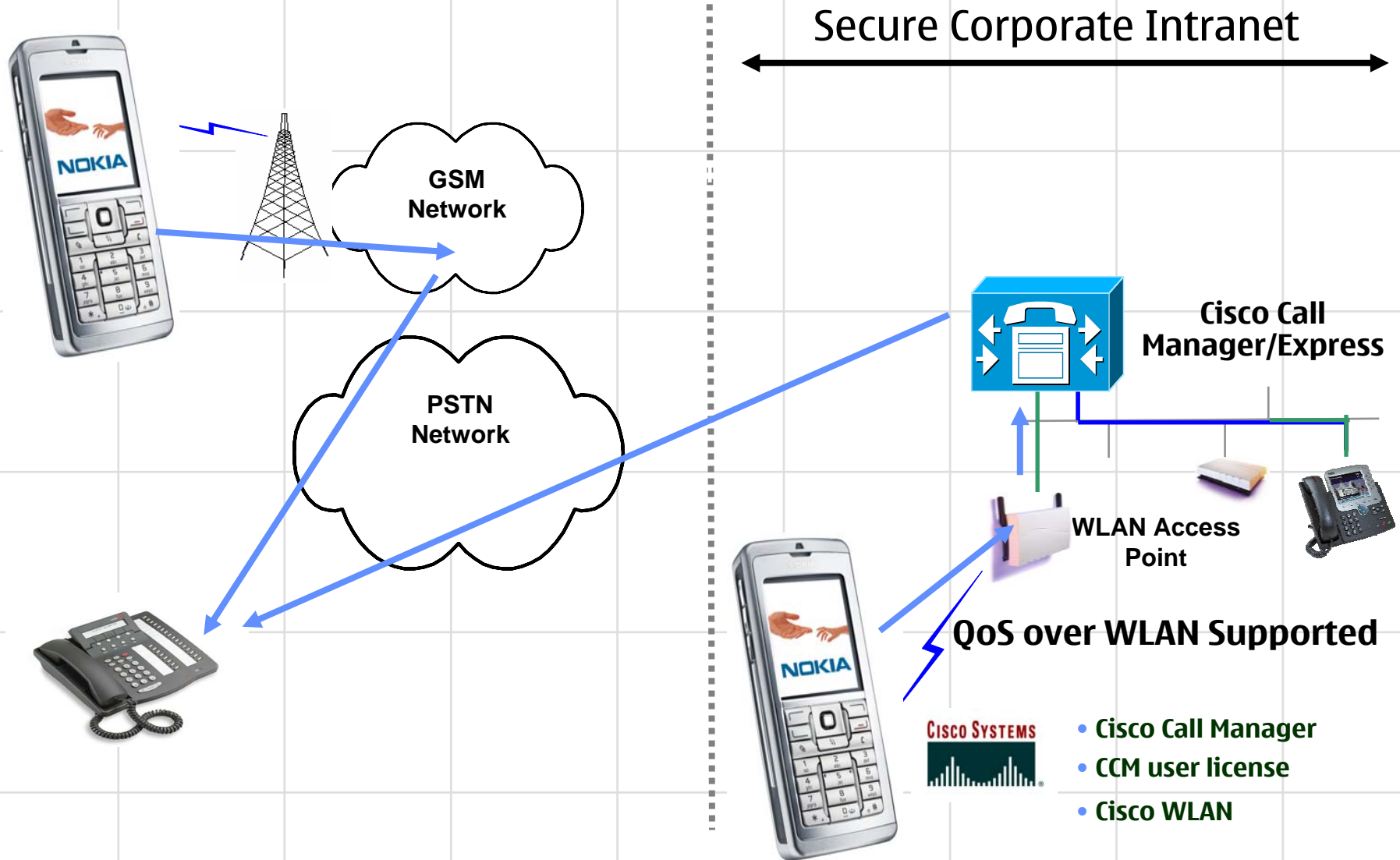- Least-cost-routing

1

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Enterprise Voice – Current State

- **Enterprise voice is the biggest ICT application**
  - Up to 25% of spending
  - 85% in-house, 15% hosted

- **Mobile Usage in the Enterprise Premises***
  - Nearly 40% of all Business Cellular User's time is now spent away from desk or primary work area
  - Nearly 50% of this is on-premises
  - 22% use their mobile while AT their desk

- **Needs**
  - Cost savings
  - Coverage & quality on the mobile side
  - Functionality, especially on the mobile side

- **Mature, but some buzz now**
  - Legacy voice is moving to IP
  - Growing mobile phone penetration and usage
  - VoIP over WLAN

Nokia Cisco Voice Solution – Initiating Calls

Secure Corporate Intranet

GSM Network

PSTN Network

Cisco Call Manager/Express

WLAN Access Point

QoS over WLAN Supported

CISCO SYSTEMS

- Cisco Call Manager
- CCM user license
- Cisco WLAN

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Nokia Cisco Voice Solution - Receiving Calls

Secure Corporate Intranet

GSM
Network

If called party is off campus

PSTN
Network

**Cisco Call
Manager/Express**

**WLAN Access
Point**

QoS over WLAN Supported

CISCO SYSTEMS

- **Cisco Call Manager**
- **CCM user license**
- **Cisco WLAN**
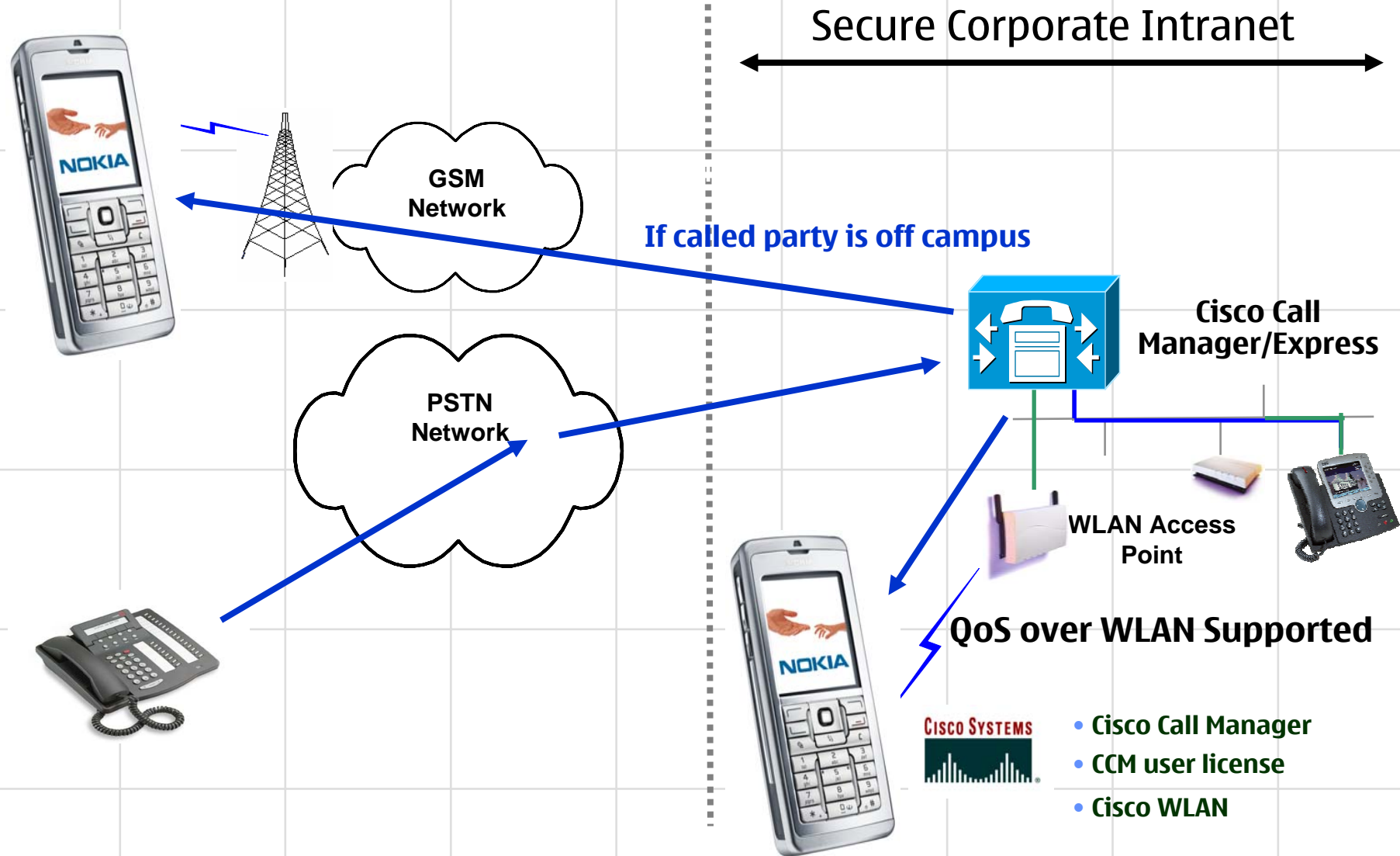
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Cisco Enterprise Voice Solution

- **Enterprise:** Bring your Call Manager core functionality to a dual mode Nokia device. Assisting in future proofing your investment

- **Mobile Workers:** While on campus you can utilize the core functionality you trust, from your IP desk phone via your mobile phone. Unique phone number available Q1/07.

- **Enterprise IT**: Based on Call Manager standards and tested for interoperability

- Move on campus and inter campus calls onto your private network

- **Nokia phone functions** as off-IP PBX bridged extension both on and off campus

**Availability:
WLAN: Q4/06
Cellular: Q1/07**

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Nokia and Cisco Dual Mode Solution Feature Set

- MO IP calls, from idle, contacts, message, logs, speed dialing, voice dialing

- MT IP calls

- Hold

- Call Waiting

- Call line presentation (CLIP) and Restriction (CLIR)

- Transfer – unattended and attended (via new call)

- Call Divert

- Call divert activation

- Call Park

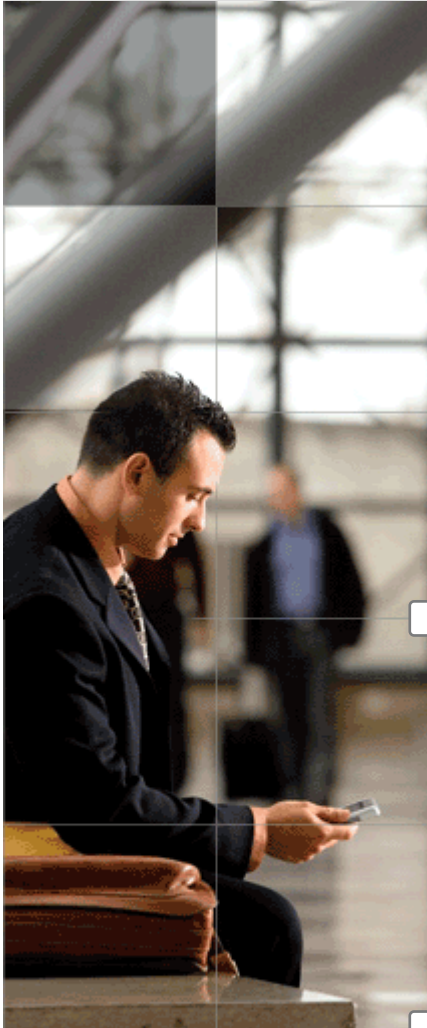- Call Pick-up, Group Call Pick-up

Availability:
WLAN: Q4/06
Cellular: Q1/07

CISCO SYSTEMS

Work together. Smarter.

Nokia Partner Confidential   8   © 2006 Nokia

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Nokia and Cisco Dual Mode Solution Feature Set

- Conference

- Music On Hold (unicast)

- Anonymous Call Blocking

- DTMF: for e.g. voice mail via GW (PSTN interworking from infra required)

- Emergency calls: VoIP if no CS coverage available

- VoIP settings manually, OTA and via TFTP over WLAN

- Automatic & manual VoIP logging to pre-configured WLAN VoIP infrastructure

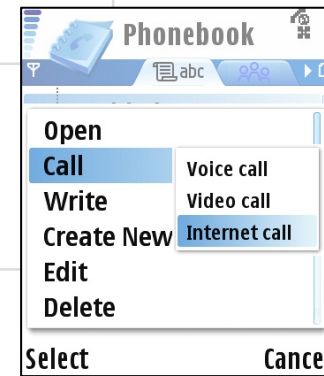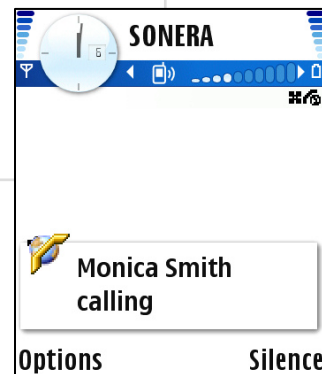**Availability:**
WLAN: Q4/06
Cellular: Q1/07

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Using Cisco Enterprise Voice Solution with Nokia ESerie

Terminal A

Phonebook

abc

David Gibson

Options   Exit

Phonebook

abc

David Gibson

David Gibson

mo... ...58408022482

tel.... **23412**

Select   Cancel

Phonebook

abc

Open
Call   Voice call
Write   Video call
Create New   Internet call
Edit
Delete

Select   Cancel

SONERA

David Gibson

Options   Loudspeaker

Terminal B

SONERA

Monica Smith
calling

Options   Silence

Cisco Systems

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Nokia Eseries – Device Overview

Optimized to meet specific business needs

Nokia E60
Business Voice

Nokia E61
Business Email

Nokia E70
Business Voice & Messaging

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Nokia Dual Mode Solutions for Business

- Nokia is developing an SCCP client on Nokia dual-mode Eseries devices

- In WLAN, operates as an IP Phone with Cisco CallManager/E feature access

- In public GSM network, operates as an GSM cellular phone with features offered defined by the GSM carrier

- Security capabilities

- Build-In Device Management Features

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Nokia Eseries – Security

Segmented Operating System - Global Policy Control

- Telephony and Communications
- Software Installation
- Secured Storage of Keying Material
- Controlled Access to Hardware
- Audit and Inventory Services
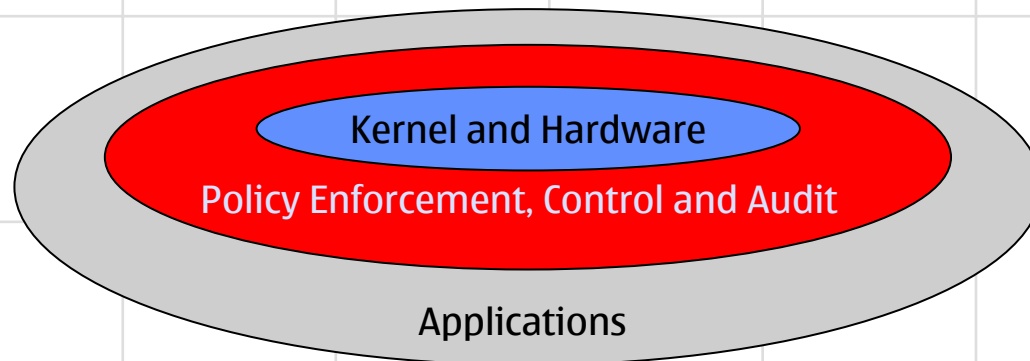
Series 60 / Symbian

Socket, comms & telephony
User interface components
etc.

Software authentication
and authorization
(C++, Java)

Hardware Specific
Security Services

Secure storage

Trusted hardware services
Boot protection

Policies, testing and audits

Kernel and Hardware

Policy Enforcement, Control and Audit

Applications

Nokia E60 – User Experience

Professional design with easy access to advanced voice features

3G connectivity

Nokia voice quality

Voice aid enables eyes-free use of core mobile functions, utilizing audio feedback

Volume keys easy to access

Dedicated voice key provides direct access to **voice recording**, **voice dialing** and Push to Talk features

Talking ring tone speaks the name of the calling party when the the ringing tone is played (enabled /disabled through profile settings)

Light sensor controls display lighting

High resolution, 16M color display for superior viewing, reading and browsing experience

Key size, layout makes it easy to access and use features

VoIP over WLAN can provide a cost effective option for internal business voice calls

Bluetooth wireless connectivity connects with up to six Bluetooth enabled devices at same time (e.g. wireless headset, GPS module etc.)

Built-in speakerphone hands-free communication and conference calling

Java™ applications can add on for customization

Memory 75MB built in, expandable with reduced size memory cards with hot swapping capability

Dual transfer mode enables use of several features while talking (e.g. Internet browsing, sending/receiving emails, etc.)

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Nokia E61 – User Experience

Popular business design, offering best mobile email and business voice experience

Email indicator light

Email with attachment viewers
Convenient inbox view: 3 or more headers visible in one view, date and time stamp displayed, compatible with 3rd party email applications

Large, high resolution (320 x 240 pixel),16M color display for superior email, document and calendar reading experience

PIM contacts and calendar with PC synchronization

Dedicated email key for one-press access to email

Full keyboard with backlight for easy message typing and text entry

Offline mode for reading and writing email when network is unavailable

Slim and sleek design

3G and WLAN connectivity

75MB user memory expandable with miniSD memory cards

Volume keys are easy to access

Dedicated voice key activates **voice recording**, **voice dialing** and Push to Talk features

Bluetooth wireless connectivity, supports up to six Bluetooth connections at one time

Dual transfer mode, can send emails while talking on phone

Battery life
4-7 hours talk time, 9-11 days standby

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Nokia E70 – User Experience

Professional smartphone on the outside, messaging device inside

Nokia brand

Numeric keypad on front makes it easy to dial phone numbers quickly

3G and WLAN connectivity

Innovative fold-open design

2.0 Megapixel camera for convenient photo taking

75MB user memory expandable with miniSD memory cards

Voice aid enables eyes-free use of core mobile functions, utilizing audio feedback

High resolution 16M color display enhances experience reading emails and attachments with support for office documents, viewing Internet content

Bluetooth wireless connectivity can connect up to six Bluetooth enabled devices at same time (e.g. wireless headset, GPS module, etc.)

Advanced voice dialing don't have to pre-program voice tags

Built-in speakerphone for hands-free communication and conference calling

Full keyboard makes it easy to type email, Instant and text messages as well as enter data

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Nokia Eseries - WLAN Support

Feature	Eseries
WLAN data rate	802.11g (54Mbit/s)
Quality of Service (QoS)	WMM
Security	WPA/WPA2, 802.1x, WEP TKIP Encryption
Cisco Compatible Extensions program	CCX 3.0
WLAN-BT co-existence support	Yes
SIM authentication	EAP-AKA & EAP-SIM
Authentication features	WPA PreShared Key, EAP-TLS, EAP-PEAP, EAP-TTLS, EAP-LEAP

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In Summary...

- One phone number, one device "single device, better responsiveness"

- PBX feature set to the mobile phone

- Better usage of IPC infrastructure

- Cost savings and Productivity benefits

- Better control of mobile usage

- Mobility applications (email, presence, etc...)

- Greater flexibility for end user

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