2008 EXPOSITION

The Power behind an integrated Unified Communications Solution

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Agenda

- Defined and Differentiated
- Business Driven Adoption
- Hospitality Industry Adoption of CC / UC
- Risk Considerations
- Planning to Achieve Desired Outcome
- Closing Comments

Defined and Differentiated

Communications Convergence

is coming of age …

When considering *Converged Communications*, we need to acknowledge their potential to overturn the legacy of more than 100 years of traditional telephone communications

"A few years ago they said data and voice integration will be a dream … however, today many global companies are adopting and benefiting from the technology advancement … the industry in fact is moving from pilot phase to adoption phase."

Defined and Differentiated

- VoIP and IPT are less than a decade old, replacing traditional telephone networks and overturning a century-old convention.
- Though IP technology is coming of age, there is still a distinct lack of long-term implementation experience.
- Implementation of VoIP and IPT must be driven by the business strategy, not technology imperatives.
- Although the desire for cost savings and efficiencies is driving most implementation, the benefits are not always apparent due to poor planning.
- Business expansion and 'future-proofing' are additional and more compelling driving factors.

Traditional	VoIP / IPT
Circuit switched	Packet switched
Over century old	Less than decade old
3rd generation technology	1st generation technology
Wide user base	Expanding user base
Well understood	Limited long-term experiences
Requires specialized knowledge to maintain	Uses common IT management techniques
Proven QoS	QoS challenge

Business Driven Adoption

What businesses are looking for in *Unified Communications* applications …

Business Applications	Description
Unified Messaging / Communications	Integration of various communication needs (e.g. voice, email, fax, IM, video etc.) all under a single platform and interface
Mobility	**Harness wireless and Virtual Private Network (VPN) technologies to provide end-user mobility (staff and customers) as phone numbers follow where they go**
Customer Services	VoIP allows callers to be recognized on first ring and facilitates better call centre services with caller information and needs
Integration with Enterprise Systems	**Integration of IP handsets/devices with enterprise applications such as PMS, ERP, CRM, etc. to improve internal process and information flows**
Multi-media Services	Harness broadband based TV (IPTV) and media broadcast to create revenue generating opportunities – advertising, gaming etc.

Business Driven Adoption

Some of the other common drivers are:

- Service enablement through use of integrated collaboration tools (standardizing on XML).
- Common platform across the organization to reduce or eliminate LD and operating costs (enterprise standard).
- Consolidation of operational support and functions (e.g. the functions of end-user management are simplified to mostly keyboard tasks and can be handled remotely 7x24 or by the end-users directly).

"Todate, almost all VoIP investments were strictly for toll-bypass cost savings. While this still drives most investments, we are seeing more business justification from other benefits …"

Sage Research President
Kathryn Korostoff

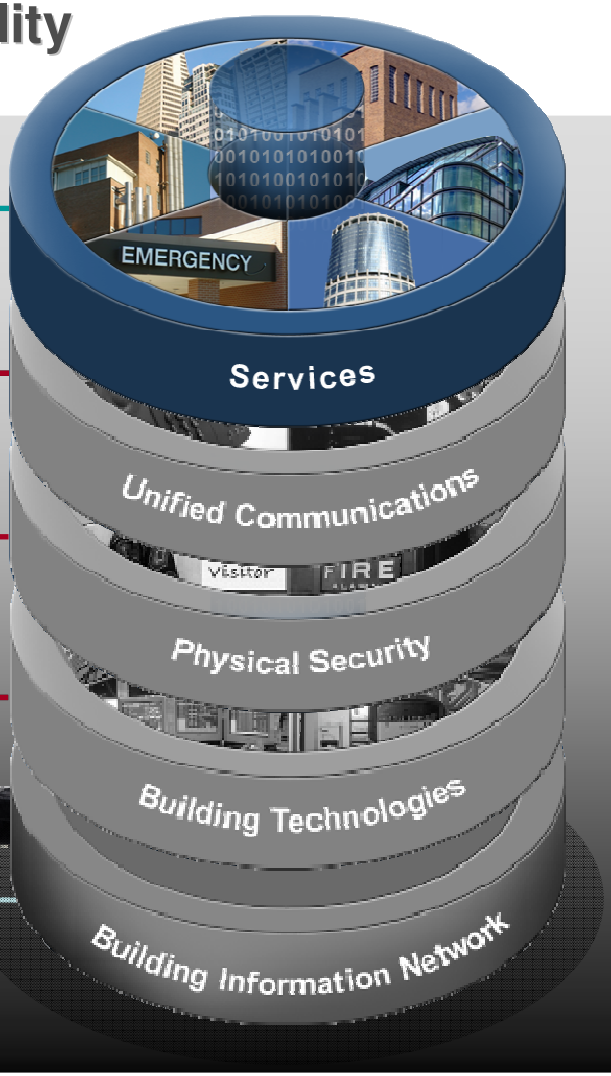
Industry Adoption of CC/UC - Hospitality

Connected Hospitality Architecture

Transformation

Convergence

Foundation



Transforming the Hotel's Business

... value-added Hospitality Services

Converging information, communication, security and building technologies

... an Intelligent Hotel Facility

Creating the next generation Building Information Network

... the 4th Utility

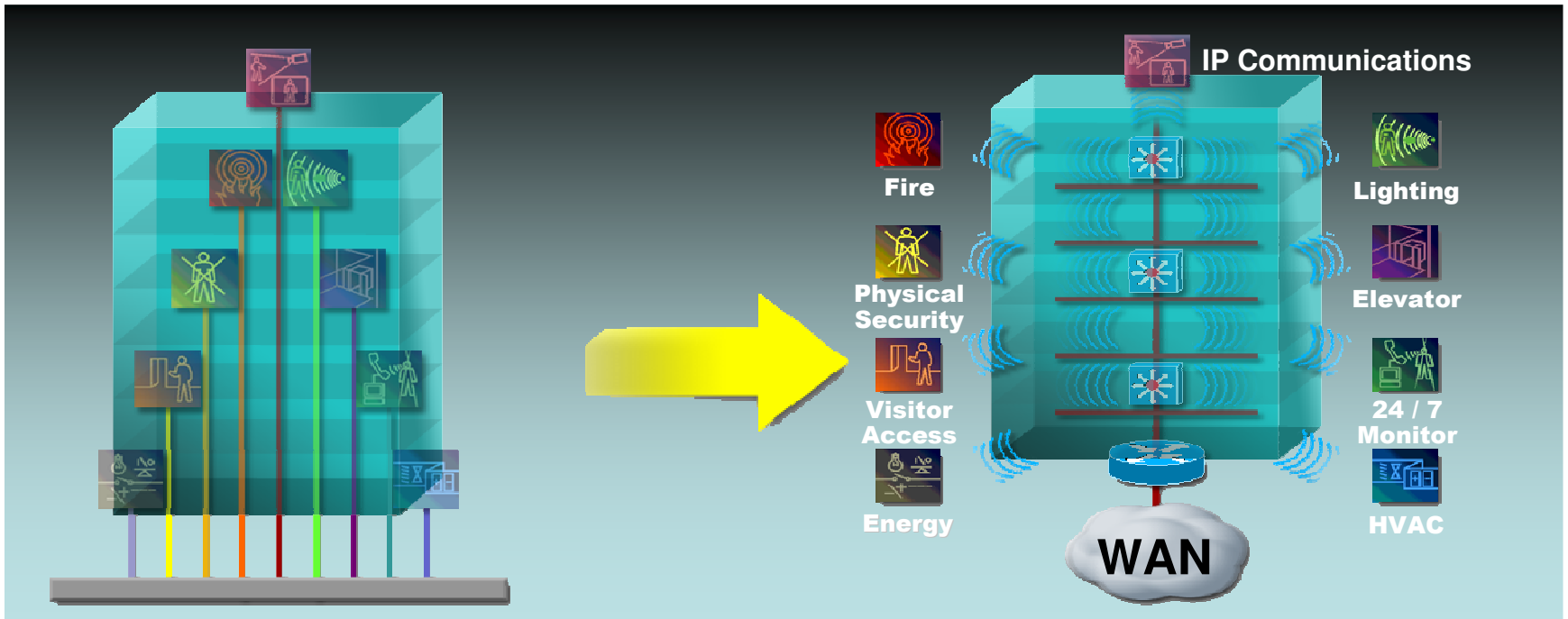
Industry Adoption of CC/UC - Hospitality

Intelligent Hotel Property

converged guest, security, building and service management

LEGACY
Disparate Building Networks
(proprietary)

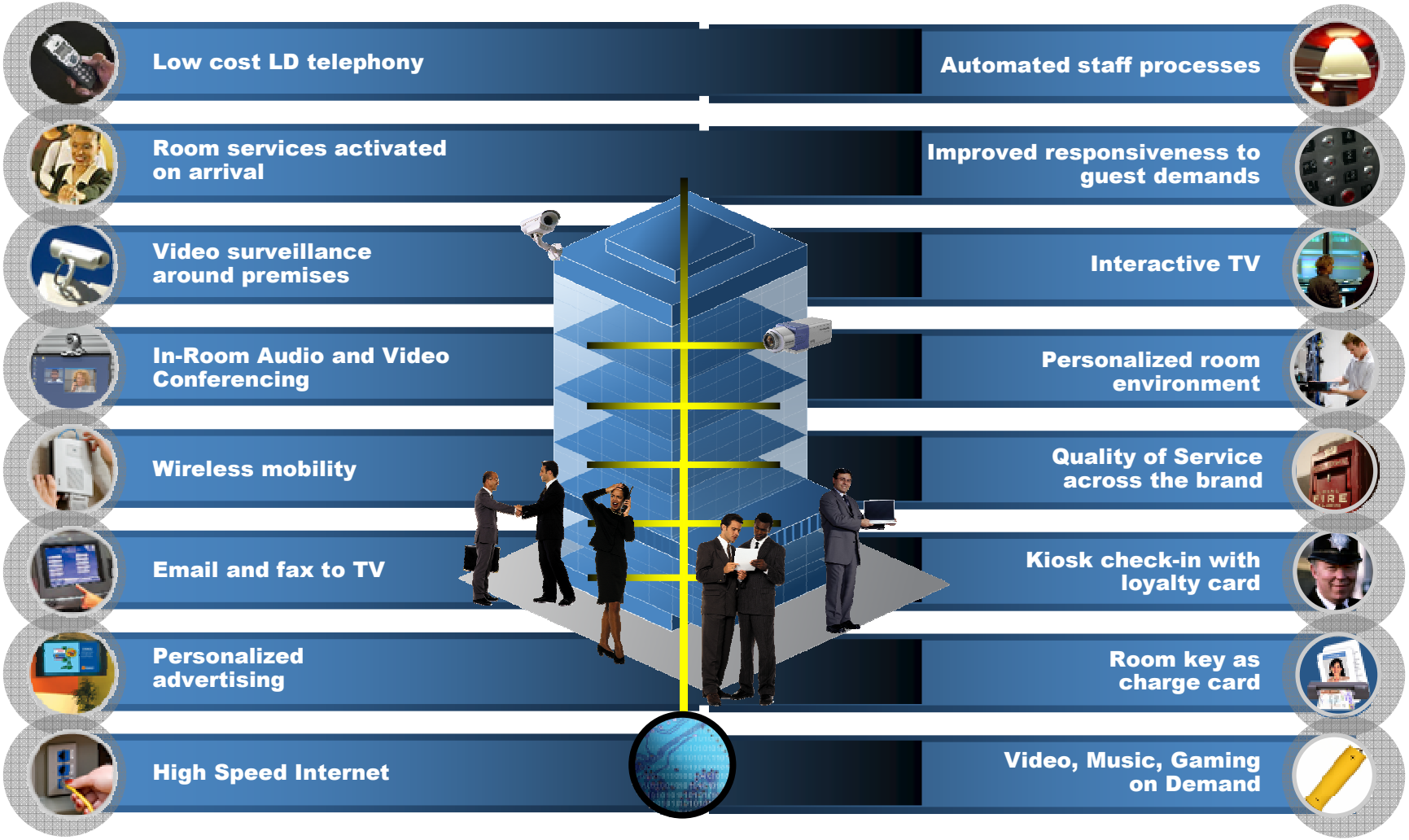
TODAY
Intelligent Building Network
(open standard)



Reduce cost and complexity by replacing disparate networks for multi-media & multi-purpose communications, security, and building systems with one simplified, flexible, and scalable IP network

Industry Adoption of CC/UC - Hospitality

CC/UC Driven Hospitality Services



Industry Adoption of CC/UC - Hospitality

- Hospitality industry (globally and even more dominant in Asia) are adopting CC/UC technologies in an ever faster pace in the past 5 years (e.g. MOHG, Langham, Four Seasons, Le Meridian, MGM, Crown, Hyatt, etc.) … integrating room services, guest services, and business services through the in-facility IP network with the back-office systems and outside world.

- **lastminute.com** is using an IPT-based application (VoiceXML) in UK to process thousands of hotel bookings with virtually no human interaction. This application allows real-time information to be communicated to callers by telephone, based on individual customer queries.
- **eBay** acquired the European IPT service provider **SKYPE** to further enable its online services.

Industry Adoption of CC/UC - Others

Industry	Applications
Financial Services	▪ Business process integration and collaboration ▪ Integrated customer center with portal services ▪ Pushed messages to mobile devices
Transportation & Logistics	▪ IM-based traffic management ▪ Voice activated locator in distribution center ▪ Emerging wireless applications – multi-media based
Retail & Advertising	▪ In-store live training and new product introduction ▪ In-mall “just-in-time” ad campaign and promotion
Health Care / Hospital	▪ Integration of patient care with imaging and voice technologies (EMR / DMR) ▪ Mobile doctor’s device – data and voice

Risk Considerations

- ***Business Risks*** **-** CC/UC implementation carries the risk of any major IT project - mis-alignment with strategic objectives, cost / schedule overruns, and inadequate benefits realization.
- ***Technical Risks*** **-** with VoIP, voice traffic becomes data and is therefore exposed to confidentiality, integrity and availability threats.
- **What we need is the balanced of business and technology governance in the planning, integration and operations phases to assess and address both the business and technical related risks.**

Risk Considerations

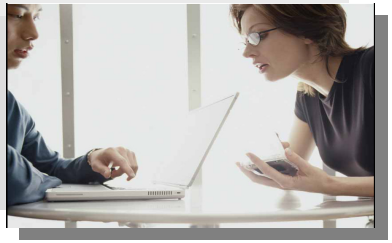
Business Risk Areas	Potential Effect	Examples of Control
Unclear business case	Unrealized benefits (e.g. technology goals achieved but no business advantage)	Clear cost/benefit and business impact analyses, project metrics and appropriate project monitoring controls
Unclear roles and responsibilities of involved parties (e.g. vendor, integrator, outsourcer)	Lack of accountability and project delayed or overrun	Clear definition of roles and responsibilities
Inappropriate vendor selection	Unable to meet project needs (e.g. solution lacks required functionality)	Vendor selection due diligence
Inappropriate system selection	Unable to meet business requirements (e.g. applications do not fully integrate with VoIP infrastructure)	Definition and matching of business requirements
Failure to accurately evaluate capacity requirements	Unexpected cost increases (e.g. additional bandwidth required or cabling upgrades)	Definition of business requirements Understanding of business strategies and direction Technical understanding of network, applications and devices
Lack of internal resources with the necessary skill sets	Degraded project quality and/or delays (e.g. unable to effectively negotiate with vendor or integrator to achieve stated security and other business objectives)	Skills inventory Appropriate training Use of appropriate external resources

Risk Considerations

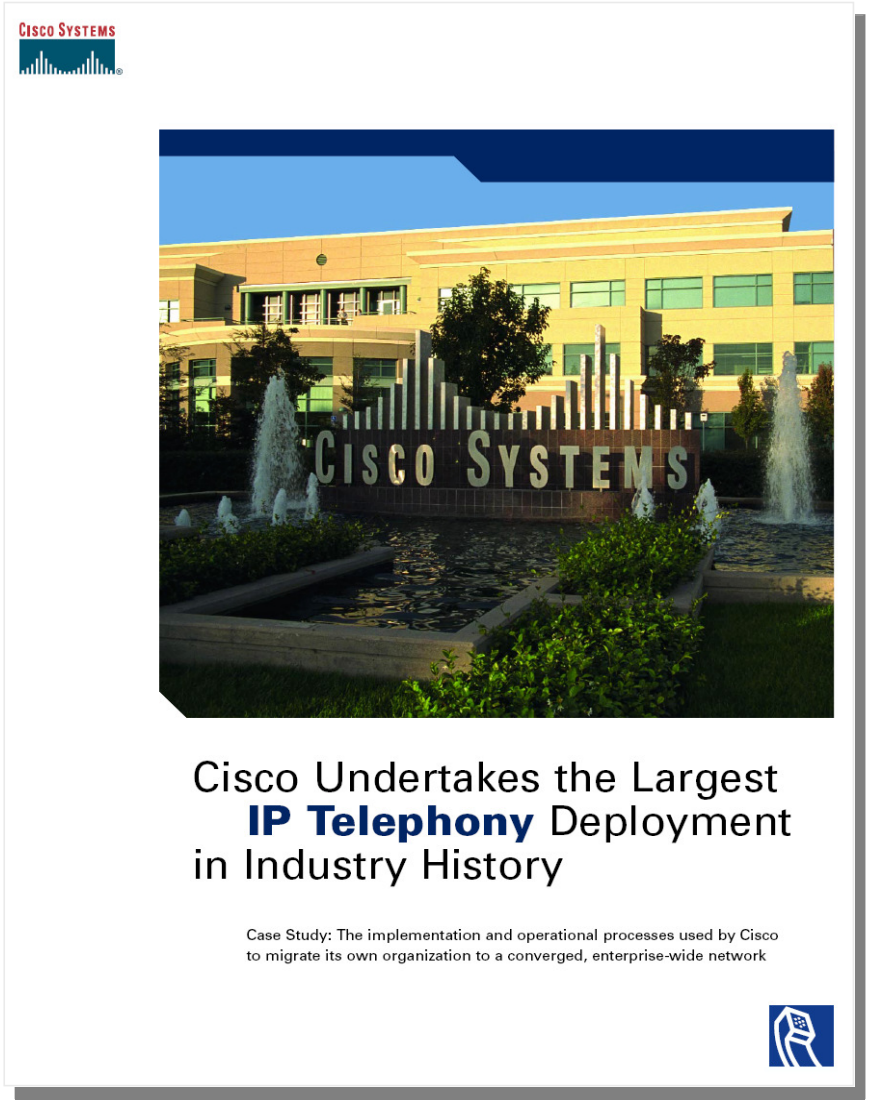
Security Risks	Definition	Potential Effect	Examples of Control
Confidentiality	Assurance that only the intended recipient receives the communication content	Eavesdropping through interception or duplication	VoIP encryption Use of strong authentication and access control
Integrity	Assurance that the communication content is unaltered	Packet loss, insertion or alteration	Confidentiality control + Use of QoS protocols
Availability	Assurance that the VoIP communication medium is efficient and effective	Lack of capacity Inadequate system management Denial of service attacks Viruses and other malicious software Increase number of attack points	Integrity control + Gateway security controls and configurations Segmentation of voice and data components Anti-virus software Hardware redundancy SLA with vendor and service provider Endpoint operating system controls

Planning to Achieve the Desired Outcome

6 Critical Steps to Get Implementation Right	
Define Needs	Understand your business's service strategies and needs, develop business case with clear and measurable success criteria
Assess Risks	Conduct a risk assessment based on your unique operating needs, including the Business Continuity Management implications
Survey Stakeholders	Consider the benefits and impacts on customers, staff, work practices, service values, organization and stakeholder support
Plan the Project	Define a detailed business implementation plan with consideration of phased introduction and roll-out
Manage Change	Plan and manage key management, operational and technical change/control
Refine & Improve (CIP)	Evaluate outcome & benefits, and look for areas of improvement focusing on service management and value



Planning to Achieve the Desired Outcome



Excellent Case Study

132 pages on Cisco's website … full of insights on planning and implementing a CC/UC solution right

Closing Comments

- **CC / UC** technologies are **revolutionizing the way businesses communicate and interact with its stakeholders**. These technologies are providing capabilities for additional business services, enhanced productivity and competitive advantage, while offering streamlined customer service.
- In the **Asia Pacific** region alone, industry estimates suggest that within the next few years, CC / UC could represent **more than 80 percent of business communications investment**.
- **Hospitality** industry, along with industries like **FSI, Transportation, Health Care, etc.** are fast adopters of Unified Communications … bringing new challenges to the competitive ICT markets.
- **CC / UC** investment and implementation must be linked to clear **business drivers** and **benefits** … with sound business case and business planning and governance, the **ROI on a TCO basis is a well attainable goal**.

Thank you . . .

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