Connected Communities Overview

Agenda

► State and Local Government Pressures

► Trends in State and Local Government

► What is a Connected Community?

► Technology for a Connected Community

► Cisco Wireless Mobility Solutions

► Cisco Unified Communications

► Why Cisco?

► Next Steps

State and Local Government Pressures

Key Government Pressures

- Increasing community access to people and resources

- Improving communications and collaboration

- Increasing resource productivity

- Protecting privacy, information, and infrastructure

- Keeping governments running

The challenge today for governments is to keep pace with evolving service demands of their communities while controlling costs and dramatically improving internal efficiencies.

Meeting Demands

State and Local Governments seek to:

Improve service effectiveness of employees

Empower citizens with greater flexibility and access to services

Improve public safety and security to allow citizens to live fear free and be secure

Social Inclusion enables equality of access and input into the community

Foster a pro business environment in the community that attracts businesses, new citizens, and tourists

Connected Communities

Service Effectiveness	Citizen Empowerment	Public Safety and Security	Social Inclusion	Economic Development

Connected Communities—The vision for networking citizens with their community, government, and work to allow individual choice and improved quality of life

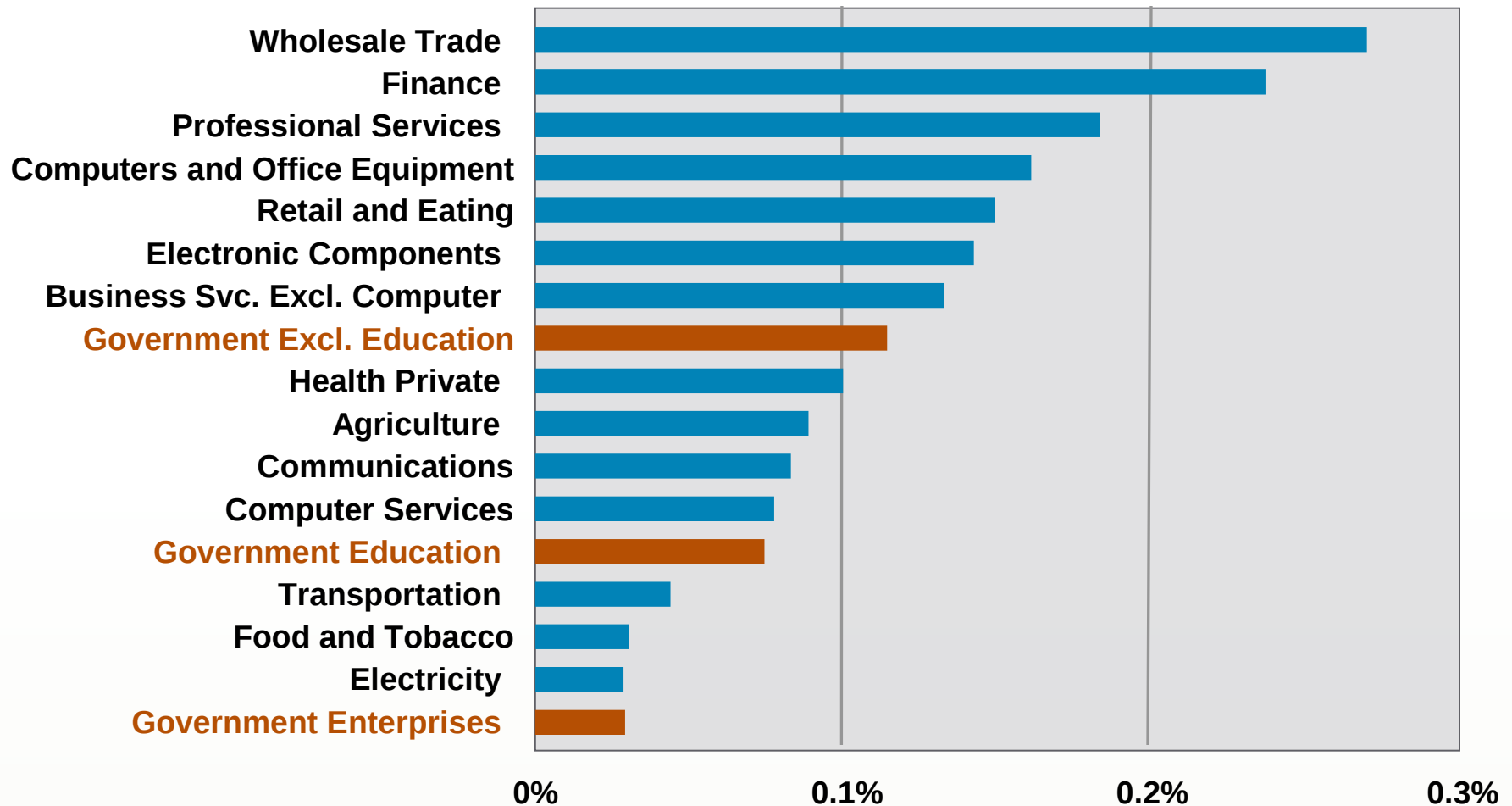# Market Trends in State and Local Government

Government Landscape At-a-Glance

- 87,279 U.S. State and Local Governments

- 5,614 Canadian Provincial, Territory and Municipal Governments

- 2007 Spending

    $54B—U.S. S&LG IT spending

    $4.0B—Canadian Government IT spending

    Five percent C.A.G.R.

- Beginning of real economic growth in CY05

- Big change in network, voice and wireless

- Citizens and businesses embracing digital Government

- Cyber, physical and homeland security top near term priorities

Environment, Economy, Social Equity, Education, Health and Safety key tenants across government
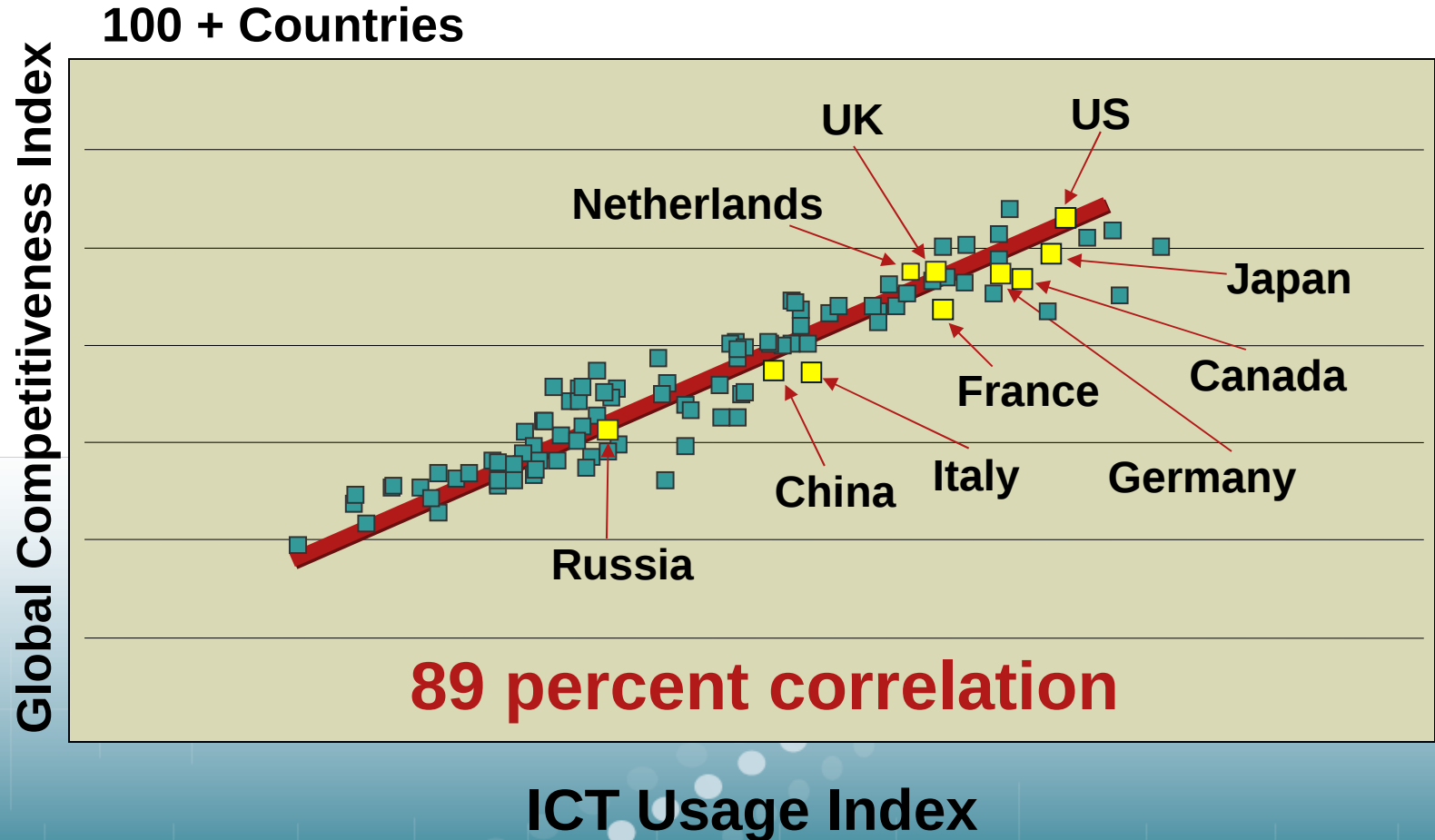
Government Productivity

Bar chart titled "Average annual percentage contribution to value-added growth 1977-2004"

Category	
Wholesale Trade	
Finance	
Professional Services	
Computers and Office Equipment	
Retail and Eating	
Electronic Components	
Business Svc. Excl. Computer	
Government Excl. Education	
Health Private	
Agriculture	
Communications	
Computer Services	
Government Education	
Transportation	
Food and Tobacco	
Electricity	
Government Enterprises	

Horizontal axis: 0%, 0.1%, 0.2%, 0.3%

Average annual percentage contribution to value-added growth 1977-2004

Source: U.S. Data, Dale Jorgenson, Harvard University, 2005

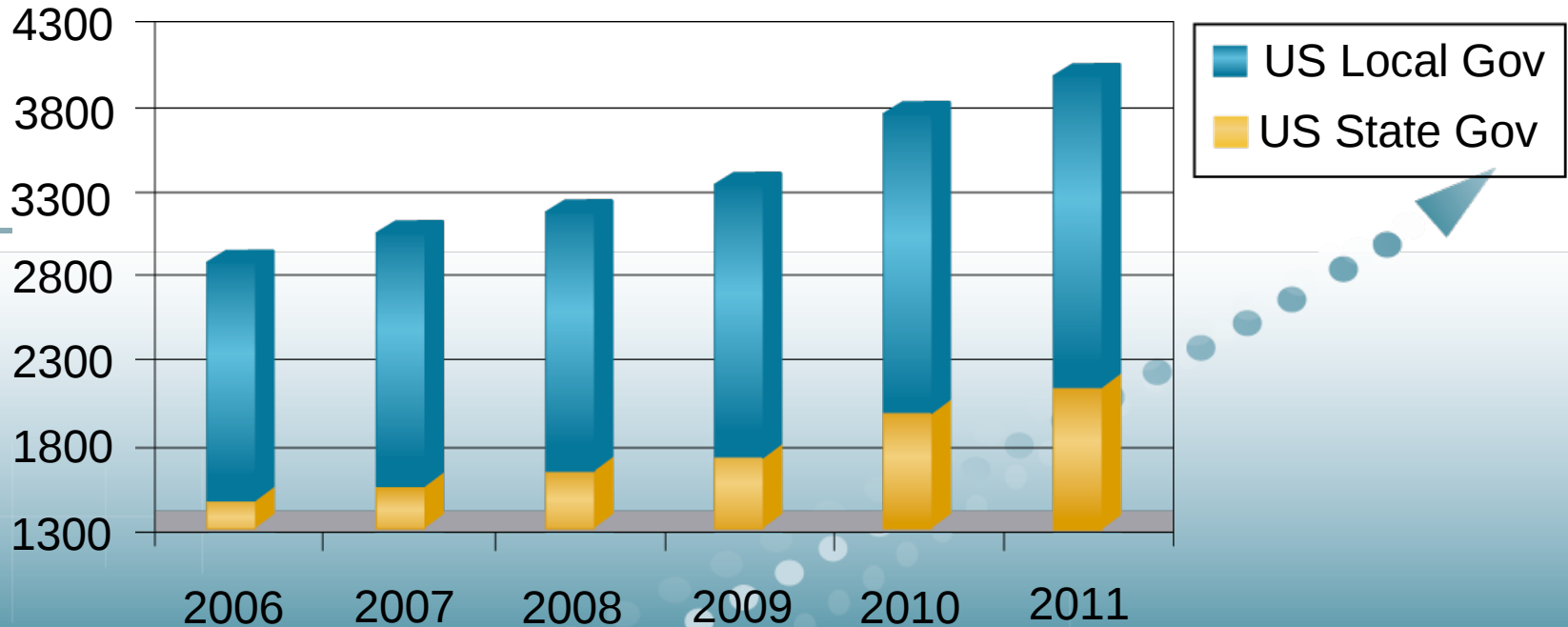# ICT Usage and Global Competitiveness

100 + Countries

Global Competitiveness Index

UK   US

Netherlands

Japan

Canada

France

Italy   Germany

China

Russia

89 percent correlation

ICT Usage Index

Government IT Spending

Technology Investments for "…strategies that enable constituents to electronically apply for and receive services are critical to constituent-centric government as they aim to make interactions with citizens, businesses and other government organizations more personalized and comprehensive."
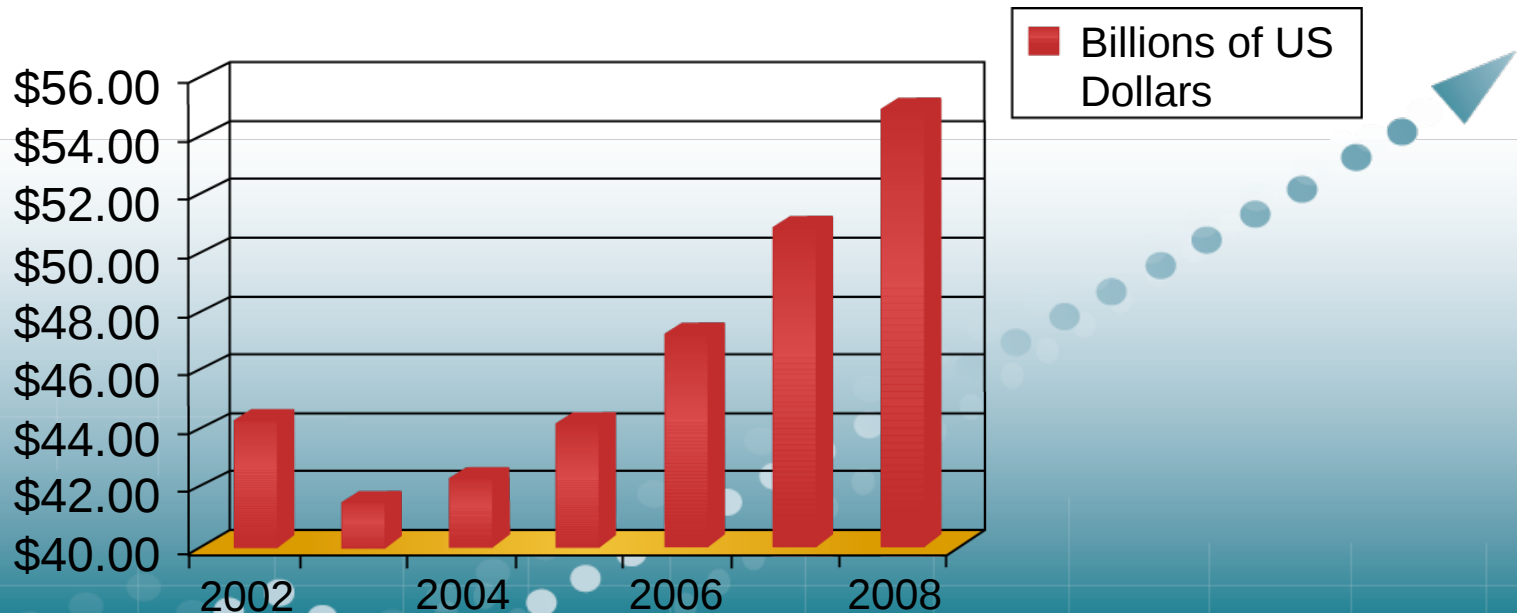

US Billions $

| | US Local Gov |
| | US State Gov |

4300
3800
3300
2800
2300
1800
1300

2006   2007   2008   2009   2010   2011

Sources: Datamonitor Sept. 2006

U.S. State and Local Government Market Forecast

Increasing investment in IT Services and Hardware driven by modernization, consolidation and centralization

U.S. State and Local Government IT Spending Forecast

Legend: Billions of US Dollars

Y-axis: $40.00, $42.00, $44.00, $46.00, $48.00, $50.00, $52.00, $54.00, $56.00

X-axis: 2002, 2004, 2006, 2008

What is a Connected Community?

What is a Connected Community?

- **A community that utilizes technology to:**

  - Improve the effectiveness and access of the services offered to citizens
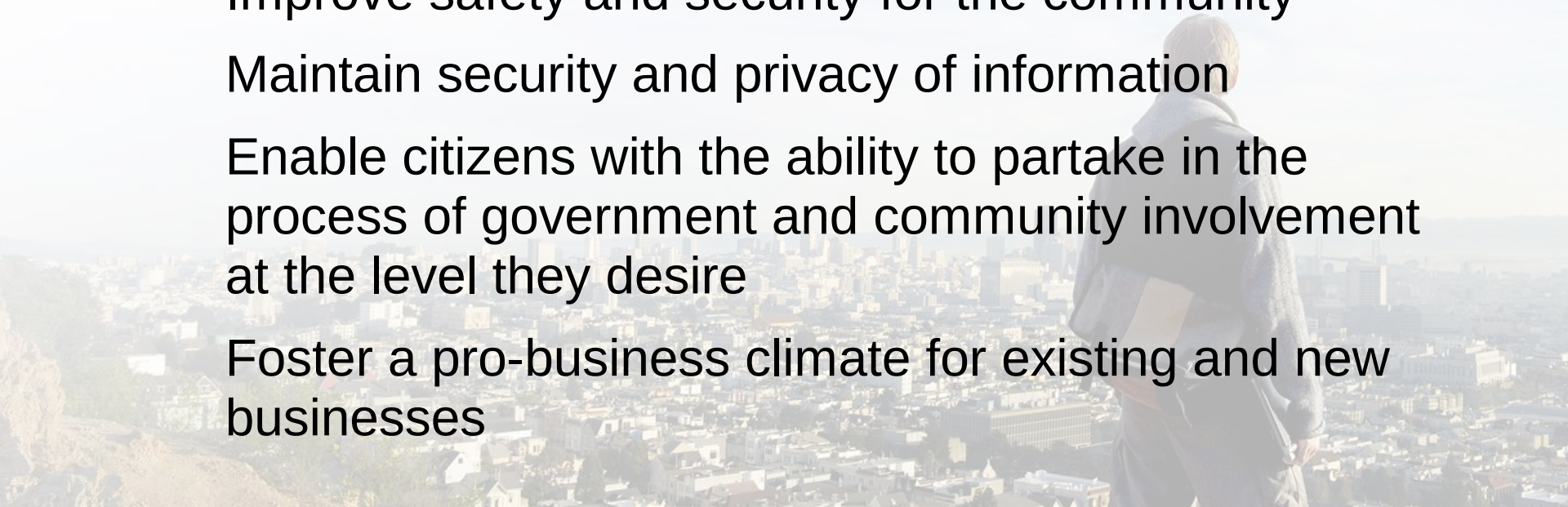
  - Allow citizens access to vital services 24x7

  - Improve safety and security for the community

  - Maintain security and privacy of information

  - Enable citizens with the ability to partake in the process of government and community involvement at the level they desire

  - Foster a pro-business climate for existing and new businesses

Albuquerque, NM: Improving Services and Stimulating the Local Economy
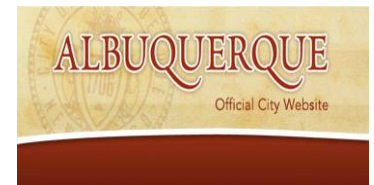
Challenge

- Provide more services without increasing cost
- Recurring cost and limited bandwidth prevented the city from adding new constituent services
- Stimulate the economy and improve education

Solution

- Cisco Secure IP Foundation Products
- Connected government offices with fiber and wireless (extending fiber to schools)
- Provide free outdoor wireless access with 18+ hotspots and on city busses

Benefit

- City government is delivering more services, more effectively
- Eliminated $133,200 annual costs of leased lines
- Effective government services have helped the city attract business investment, stimulating the economy

ALBUQUERQUE
Official City Website

Albuquerque Video

Video can be found in CSSR

CSSR Link - http://wwwin.cisco.com/WWSales/CSSR/
Search on City of Albuquerque and scroll down to the video link

or

Direct link to Windows Media file=

http://wwwin-sj-2.cisco.com/pcgi-bin/WWSales/CSSR/search.cgi?
_cs=doc_details&_r=705470&_sn=&_pos=3&&_ts_1_CUST_NAME=Albuque
rque&s_cache=1170136611&_c=DEFAULT&kwt=phrase&

The Human Network for Government

- Single, cost-effective IP network

- Government-wide scalability and flexibility

- Applications used and supported anywhere

- Device independence

Phone

Fax

E-mail

Video

Web

Wireless

Converged IP Network

Gov Employees

Citizens

Business

Cisco's Service-Oriented Network Architecture

Powerful solutions that connect communities

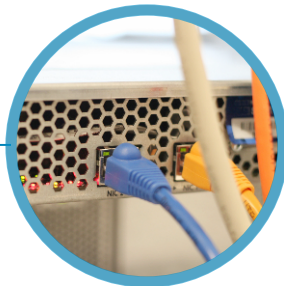**Fuels** new applications and services based on improved access, mobility, communications and collaboration and security

Delivers information and resources in the richest form of content, incorporating data, voice and video capabilities

Supports open, standards-based architectures to lower TCO and quickly adapts to support new community requirements

Connects an entire community to vital government resources from a single platform

Connected Communities

Education

Culture

Human Services

Transportation

Constituents

Revenue

Administration

Health

Public Safety

Citizens working with Government:
Tax Preparation Example

1

A woman goes online to electronically file her state taxes. She is able to draw on her previous year's tax return, which was prepared by an independent party.

2

In filling out the form, however, she realizes she is unsure about how to proceed with one of the questions.

3

She clicks on the "live help" button and a chat window opens with a tax auditor. He views her background information, enlists support of external agency employees in real-time, verifies her charitable contributions, and answers all her questions.

4

She successfully completes her online form and sets up a payment arrangement.

5

Additionally, the tax auditor notes her trouble with the form's question and realizes that many other constituents have also needed help in that same area.

6

He reports the problem, the question on the form is reworded, reducing the number of constituent inquiries—and saving all parties time and money.

This type of citizen communications is applicable to Revenue, Administration, Human Services, Public Works, Culture etc.

Governments working with Constituents:
Land Management/Permitting Example

1

A new business wants to move into the community and requests an inspection certificate.

2

The city sends out an inspector who can sign off on property and electronically submit reports via wireless without having to return to the office.

3

The inspector can look up additional data in the "Accept Application" stage as well as upload new data and submit it for approval. The inspector can also upload/download photos from the work site to provide richer-quality information about the inspection.

4

With permitting process significantly expedited, both government and the new business benefit. Inspector gives real-time status reports back to his supervisor and visits the next inspection site immediately, while the certificate of completion is issued. Business receives notice that it can move in shortly thereafter.

This type of government communications is applicable to Administration, Public Works, Human Services, Public Safety etc.

Scenario for Public Safety:
Kidnapped Child Example

1 A suspect in a stolen vehicle abducts a child.

2 Witnesses give the emergency operator a vehicle description.

3 A mobile command post is established on scene.

4 Detectives obtain a photograph of the stolen vehicle from the owner; they also identify the suspect and obtain a picture of the victim.

5 Pictures of the vehicle, suspect, and victim are shared with all local law-enforcement agencies.

6 The community alert system electronically distributes the information throughout the city and county.

7 Virtual command post uses videoconferencing and collaboration between emergency call taker, incident commander, and surrounding agencies to rapidly share information.

8 The suspect is located and the child is safely returned home.
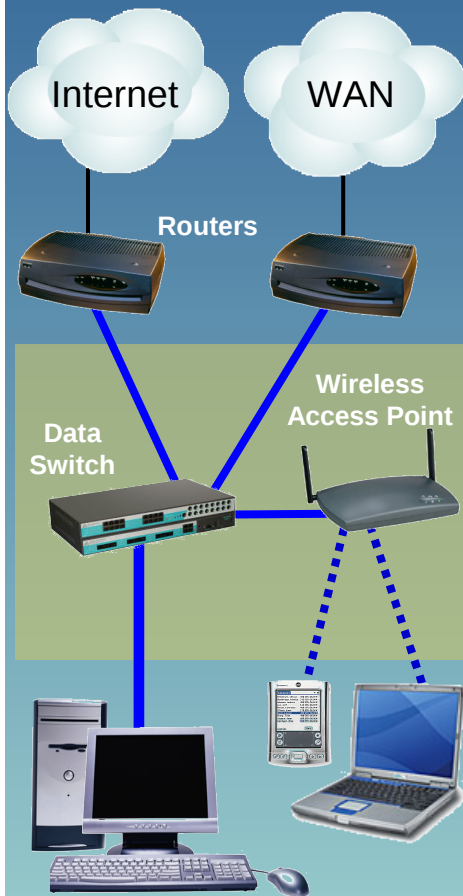
Technology for a Connected Community

Multiple Networks…

One Network

Data

Voice

Video Streaming

Video Conferencing

PA (Intercom)

Video Monitoring

Building Controls

Safety

Secure

Convergence:
Requires Integrated, Pervasive Security

Data

Security

Mobility

Converged IP Network

Voice

Video

The Secure IP Foundation

Components

Industry leading routers, switches, optical and security solutions that form the basis of a secure, Intelligent Network Foundation

Value

Provides the reliability, adaptability and resiliency to connect people across the community to vital information and resources

Reliability: protects network from outages, service degradation at peak loads and security threats as the network scales to support user demand

Adaptability: supports voice, video and data with the ability to introduce new service and application capabilities via wires and wireless

Secure: integrated security across all levels of network – from the core to the end user

Benefits

Allows governments to extend the reach of rich government resources to the entire community, while reducing operational costs and increasing service effectiveness.

Built in security at all levels; provides a security strategy for both today's network and tomorrow's growth

Enables all advanced communications capabilities across the organization

Security—Benefits of a Systems Approach
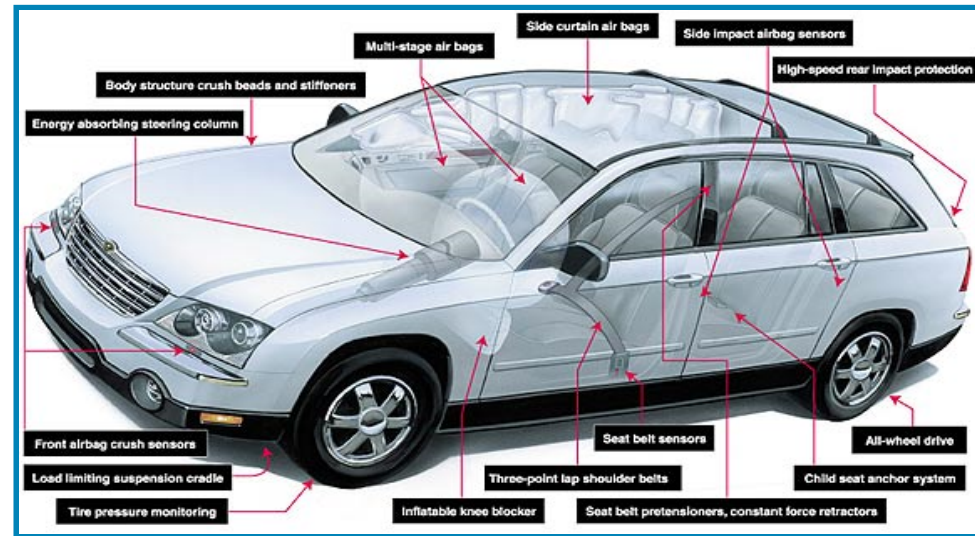
- Complex environment
- Gaps & inconsistency
- Lower visibility
- More difficult to manage
- Higher TCO

- Simplified environment
- Tighter integration = tighter security
- Greater visibility
- Easier to deploy & manage
- Lower TCO

Good Security Builds Trust of Citizens

Scams

Compliance

The
Citizens

Information
Harvesting

Den
Ser

**City
Network**

System Level Solutions

Attack

New Devices

Improve City Services with Systems Approach—City of Southfield, Michigan

Challenge

- Over-loaded foundation network and complex network management
- Improve communication between offices/agencies and citizens–multiple number exchanges, limited voice mail, etc.
- Better protect sensitive data and communications

Solution

- Cisco Secure IP Foundation products
- Call Processing, IP Phones, and Unified Messaging
- Covering 850+ employees in 24 departments in 18 buildings

Benefit

- Increase service effectiveness by improving network uptime, reduced time of network management and adds, moves, and changes
- Robust infrastructure has reduced cost of network management, maintenance and network outages
- Replacing Centrex system with Cisco IP Communications will save the city $100,000/year
- Enabling Southfield employees to meet Citizens' needs more quickly

Southfield
the center of it all™

Improving Services Effectiveness - State of Illinois Legislative Information Systems

Challenge

- Provide a secure, highly available network
- Support secure deployment of constituency services through an information-rich Website

Solution

- Implementation of Secure IP Network to combat network security threats
- Integration of Secure Connectivity to help ensure flexible yet secure access

Benefit

- Increased service effectiveness:
    - High availability
    - Increased legislator productivity
    - Secure constituency transactions
- Intra-agency collaboration:
    - Secure intra-agency communications
    - Protection of confidential data

Cisco Wireless Mobility Solutions

Cisco Mobility Solutions for State and Local Governments

Enhance Service Effectiveness, Field Productivity and Public Safety

Indoor Wireless Solutions

Secure WLAN that provides a convenient, flexible way to access important government resources anywhere inside of a building

Hotspots & Building to Building Solutions

Secure WLANs that extend

Wi-Fi capabilities to community facilities (small geographic areas – e.g. parking lots, around building) or between buildings

Pervasive Outdoor Solutions

Secure outdoor WLAN that delivers broadband connections to metropolitan-area environments

Secure IP Foundation

Improving Service Effectiveness, Productivity and Safety - Clack County Court System

Challenge

- Antiquated network was becoming overwhelmed by massive growth
- Demands from citizens, court workers and attorneys where difficult to support and negatively affecting efficiency and productivity

Solution

- New Secure IP Foundation connecting all facilities with Wireless and IP based phone system (roll out in process)

Benefit

- Wireless access for employees allows them to be connected anywhere in build which increases productivity and efficiency
- Prosecutors and Defenders can get internet access for research and live presentations in court.
- Phone based interactive voice response (IVR) system reduced live calls from 3200 to 1600 a day, increased average amount the county collects on each ticket by 50% because the convenience of payment makes people less likely to contest

Cisco Unified Communications

Cisco Unified Communications for State and Local Governments

Improve how you communicate and collaborate

Phone Systems, Voicemail, and Collaboration

IP telephony call-processing, voice mail and collaboration solutions that allows government to improve communications and collaboration, while reducing costs

Advanced call processing and Contact Center

Call center and IVR capabilities that provides innovative, integrated contact management and self service capabilities to support high-value interactions

Video Collaboration and Surveillance

Video conferencing and Telepresence integrate video into communications - increasing effectiveness. IP based Video surveillance enables low cost video security accessible across the network

Mobile Voice and Interoperability

Mobile Voice solutions enable first responders to be in command and connected in the field via satellite. Radio interoperable solutions allow multiple radios to communicate with each other and with voice users on the network

Secure IP Foundation

Foundation to Improve Services – City of Thornton, CO

Challenge

- Unreliable network negatively affected employees
- Management of Data and Voice networks was expensive and burdensome on IT staff
- Needed to improve service effectiveness to citizens, employees and business

Solution

- Upgraded to secure IP foundation
- Introduced voice over IP

Benefit

- Dramatically reduced network down time
- New phones improved internal communication and service effectiveness for citizens
- Reduced network maintenance costs by $50,000 annually

www.cityofthornton.net

Why Cisco?

Cisco Provides a Unique Partnership

- Unmatched technical expertise

    22-year track record as industry leader in networking

    Decades of public sector expertise and best practices

    World-class engineers

    Extensive experience in scalable network design, operations, management, and support

- Unrivaled partnerships
- Highly interoperability solutions
- Cisco® Services
- Cisco Capital
- Extensive Partner Community

Next Steps

- Attend the UC, Wireless and Demo portions of this event

- Think about some of the solutions presented today and how they can help you with your challenges

- Talk to a trusted advisor at Cisco

- Review real world case studies and best practices at www.cisco.com

Connected Communities Overview

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Agenda

- State and Local Government Pressures
- Trends in State and Local Government
- What is a Connected Community?
- Technology for a Connected Community
- Cisco Wireless Mobility Solutions
- Cisco Unified Communications
- Why Cisco?
- Next Steps

State and Local Government Pressures

Presentation_ID.scr

3

Key Government Pressures

- Increasing community access to people and resources

- Improving communications and collaboration

- Increasing resource productivity

- Protecting privacy, information, and infrastructure

- Keeping governments running

The challenge today for governments is to keep pace with evolving service demands of their communities while controlling costs and dramatically improving internal efficiencies.

- The challenge today for governments to keep pace with evolving service demands of their communities

- The challenge is that is that their applications, business processes and supporting IT infrastructure can't support escalating community demands for access to information and services, at the point-of-need.

- ***Limited Community Access to Resources***: Governments need to extend the reach of the network and the availability of information and resources to the broadest parts of community

- ***Inadequate Communications and Collaboration:*** Governments are looking for more effective ways to improve communication and collaboration across offices, departments, jurisdictions and non-government organizations (NGO's) to deliver needed services to constituents

- ***Productivity:*** Governments need to improve overall and field productivity by providing workers with secure, remote access to information and resources

- ***Inconsistent in Protecting Privacy and Information:*** Governments recognize the need to increase the level of trust with their constituents by protecting individual privacy and confidential information in a secure environment while ensuring accuracy

- ***Recovering Quickly From Outages:*** Governments have an obligation to ensure the continuity of operations throughout any disruption

Meeting Demands

State and Local Governments seek to:

- Improve service effectiveness of employees
- Empower citizens with greater flexibility and access to services
- Improve public safety and security to allow citizens to live fear free and be secure
- Social Inclusion enables equality of access and input into the community
- Foster a pro business environment in the community that attracts businesses, new citizens, and tourists

- Governments are under continuous pressure to provide access to resources necessary to improve services and the quality of life for employees and citizens

- ***Service Effectiveness***
- Governments are looking at ways to provide employees with the resources and seamless communication and collaboration tools which allow them to interact with citizens and each other to make timely, accurate decisions

- ***Citizen Empowerment***
- Governments need to allow citizen's simplified access to important resources necessary to solve problems, complete tasks and facilitate active participation in government

- ***Public Safety and Security***
- Governments strive to provide a safe environment which protects the community and provides first responders with instant access to accurate information and resources that allow them to be more effective

- ***Social Inclusion***
- Governments recognize the importance and obligation of providing access to important resources to the broadest community to raise the standard of living by increased knowledge and access to vital health, educational and social services

- ***Economic Growth***
- Improving employee and citizen services in a safe environment fosters economic development and growth across the community through increased business and higher quality of life

Connected Communities

| Service Effectiveness | Citizen Empowerment | Public Safety and Security | Social Inclusion | Economic Development |

Connected Communities—The vision for networking citizens with their community, government, and work to allow individual choice and improved quality of life

- Governments exist today to serve citizens – everything they do needs to support this goal.

- Cisco has defined the five buckets – Service Effectiveness, Citizen empowerment, etc as the context to show how our technology can help governments make their communities better.

- This vision is citizen centric – since governments exist to support the citizenry we start with getting them connected to the community – when we say government we are talking about all the aspects of the internal workings and how they need to be efficient and productive to support citizens

- Quality of life is a main point – government exist to support citizen and this comes down to making life better for each and everyone in the community

Market Trends in State and Local Government

Government Landscape At-a-Glance

- 87,279 U.S. State and Local Governments
- 5,614 Canadian Provincial, Territory and Municipal Governments
- 2007 Spending
  - $54B—U.S. S&LG IT spending
  - $4.0B—Canadian Government IT spending
  - Five percent C.A.G.R.
- Beginning of real economic growth in CY05
- Big change in network, voice and wireless
- Citizens and businesses embracing digital Government
- Cyber, physical and homeland security top near term priorities

Environment, Economy, Social Equity, Education, Health and Safety key tenants across government

- The purpose of this slide is to give a high-level perspective of the things happening in government today.

- Spending – when you read the research there are many different interpretations of the exact number – the ones on this slide are Cisco's call on market size based on all the research – later slides will validate but if you read only one analyst report it could be a different number. The point on this is the market is big.

- Growth started to rebound in CY05 and is projected to grow over the next decade – later slides give more detail on this point

- Big changes – Governments have traditionally been slower adopters of technology – they an now catching up and it is changing all aspects of the network and communication capabilities

- Security is very important – since governments exist to support citizens their security is always paramount. In today's society the threats are much different then 10 years ago – when we use to worry about a random mugging or burglary now people are worried about terrorism – governments understand this and are focusing on security in a much different way,

- The bottom of this slide is a list of the high level areas that Mayors, Governors or chief elected officials are thinking about – they are focused on the macro issues.

Government Productivity
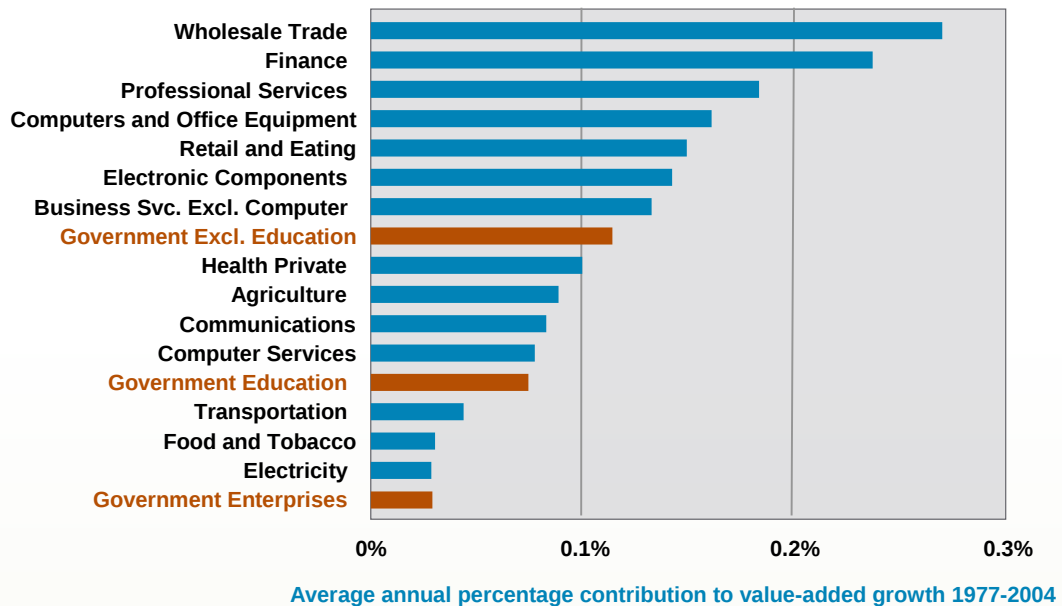
Wholesale Trade
Finance
Professional Services
Computers and Office Equipment
Retail and Eating
Electronic Components
Business Svc. Excl. Computer
Government Excl. Education
Health Private
Agriculture
Communications
Computer Services
Government Education
Transportation
Food and Tobacco
Electricity
Government Enterprises

0%   0.1%   0.2%   0.3%

Average annual percentage contribution to value-added growth 1977-2004

Source: U.S. Data, Dale Jorgenson, Harvard University, 2005

- This study was preformed by a senior economist at Harvard – the study continues today with updates and can deep research can be accessed on www.harvard.edu. Jorgenson has been analyzing the impact that technology on productivity. From a high-level this graph shows how the adoption and use of networking technology has a significant impact on worker productivity.

- It is important to understand that the number may seem small (.1% etc) but if you apply this year on year the impact becomes very significant.

- Overall government is in the middle or low end of the spectrum on how much they benefit from tech – there are a couple of reasons
    - They have been slower in the adoption compared to more aggressive verticals like finance who have more money
    - Gov excl Edu means all government without education, Government EDU is specific to schools and Government Enterprise is more on the state level.

    The main point of this slide is that the adoption of network technology does have a significant impact on increasing productivity (or value added growth in a generic sense) and verticals that adopt technology benefit more then the laggards. Governments have the potential to improve productivity and value added growth if they utilize technology

ICT Usage and Global Competitiveness

100 + Countries

Global Competitiveness Index

UK US
Netherlands
Japan
France Canada
China Italy Germany
Russia

89 percent correlation

ICT Usage Index
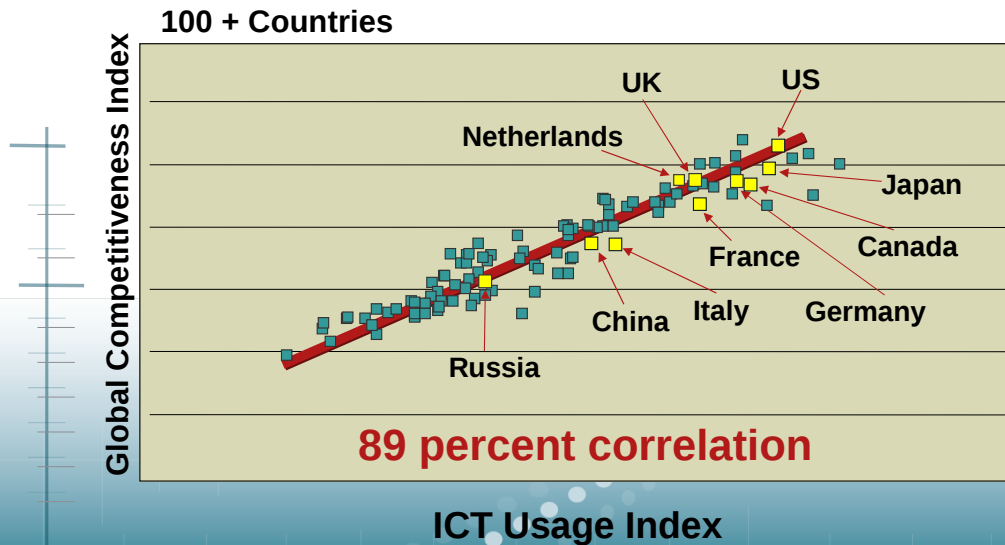
Source: The Global Information Technology Report
2004-2005, World Economic Forum

- **What is the Networked Readiness Index?**

- The Networked Readiness Index, or NRI, defines how prepared a country is to take advantage of developments in information and communications technology. Governments, regulators and businesses believe that ICT is critical for the development and competitiveness of nations.

- It is based upon the following premises:

- There are three important stakeholders: individuals, businesses, and governments

- There is a general macroeconomic and regulatory *environment* for ICT

- The degree of *usage* of ICT by the three stakeholders is linked to their degrees of *readiness* to use and benefit from ICT

- **How is it calculated?**

- Two types of data were used: soft data, gathered from questionnaires (managed by the World Economic Forum as part of their research for the Global Competitiveness Report), and hard data, which is driven by statistics collected by international multi-lateral agencies (such as the World Bank and ITU). The soft data is critical in determining the opinion of the decision makers and influencers who are intimately familiar with a nation's economy and ICT usage. The hard data captures fundamental elements related to the development of infrastructure, human capital and ICT.

- **What is the difference between Networked Readiness and the Global Competitiveness Index?**

- The Global Competitiveness Index measures economies' potential to achieve sustained economic growth. It divides nations into stages of development based on GDP per capita. The Networked Readiness Index measures how successful economies are in exploiting developments in ICT. A comparison of both indices suggests a tight correlation. As the networked readiness of nations increase, so does the Global Competitiveness Index (GCI)

Government IT Spending

Technology Investments for "…strategies that enable constituents to electronically apply for and receive services are critical to constituent-centric government as they aim to make interactions with citizens, businesses and other government organizations more personalized and comprehensive."

US Billions $

Legend:
- US Local Gov
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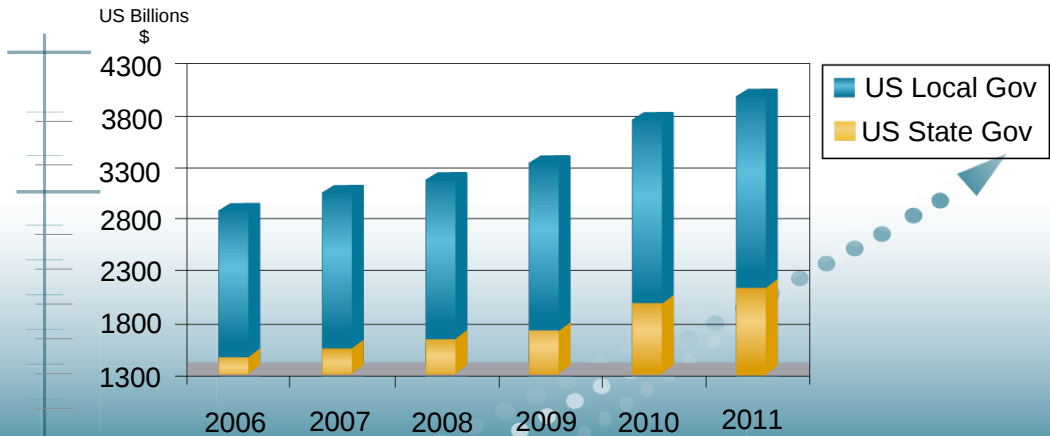
Sources: Datamonitor Sept. 2006

- Pulled from Datamonitor (large market analyst firm similar to IDC, Gartner, etc.) which tracks SLG from a networking and communications perspective.

- The key points on this slide are:
    - Text at the top – pushing services to the web for citizens is a big focus – something that private industry has understood and been doing for years.
    - Overall spending on IT spending is growing – if a government is not spending in this area they are behind the curve because their counterparts who understand the importance are

U.S. State and Local Government Market Forecast

Increasing investment in IT Services and Hardware driven by modernization, consolidation and centralization

U.S. State and Local Government IT Spending Forecast
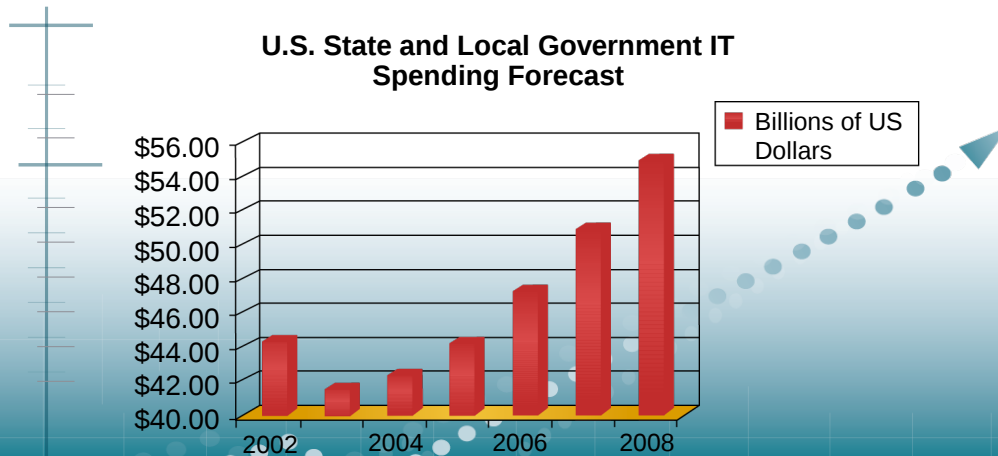
Sources: Gartner Dataquest – Nov. 2006

What is a Connected Community?

What is a Connected Community?

- **A community that utilizes technology to:**

    Improve the effectiveness and access of the services offered to citizens

    Allow citizens access to vital services 24x7

    Improve safety and security for the community

    Maintain security and privacy of information

    Enable citizens with the ability to partake in the process of government and community involvement at the level they desire

    Foster a pro-business climate for existing and new businesses

- This is a high level outline of what a true connected community or digital government (use what you like) is doing with tech

Albuquerque, NM: Improving Services and Stimulating the Local Economy

Challenge

- Provide more services without increasing cost
- Recurring cost and limited bandwidth prevented the city from adding new constituent services
- Stimulate the economy and improve education

Solution

- Cisco Secure IP Foundation Products
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Benefit

- City government is delivering more services, more effectively
- Eliminated $133,200 annual costs of leased lines
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ALBUQUERQUE
Official City Website

- Read the case study and talk about the points that you feel most comfortable with

Albuquerque Video

Video can be found in CSSR

CSSR Link - http://wwwin.cisco.com/WWSales/CSSR/
Search on City of Albuquerque and scroll down to the video link

or

Direct link to Windows Media file=

http://wwwin-sj-2.cisco.com/pcgi-bin/WWSales/CSSR/search.cgi?
_cs=doc_details&_r=705470&_sn=&_pos=3&&_ts_1_CUST_NAME=Albuque
rque&s_cache=1170136611&_c=DEFAULT&kwt=phrase&

-

The Human Network for Government

- Single, cost-effective IP network
- Government-wide scalability and flexibility
- Applications used and supported anywhere
- Device independence

Phone
Fax
E-mail
Video
Web
Wireless

Converged IP Network

Gov Employees
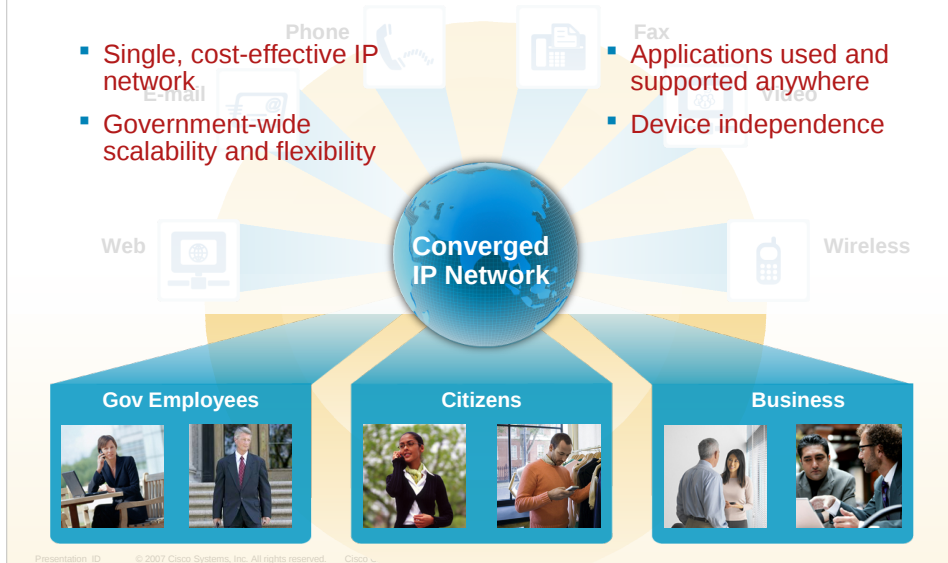
Citizens

Business

The point of this slide is to tie in Cisco's overall Human Network marketing focus

The human network connects citizens, governments and business on an IP network covering all types of communications. When you put all this onto an IP network the limits are almost infinite

Cisco's Service-Oriented Network Architecture

Powerful solutions that connect communities

Fuels new applications and services based on improved access, mobility, communications and collaboration and security

Supports open, standards-based architectures to lower TCO and quickly adapts to support new community requirements

Delivers information and resources in the richest form of content, incorporating data, voice and video capabilities

Connects an entire community to vital government resources from a single platform
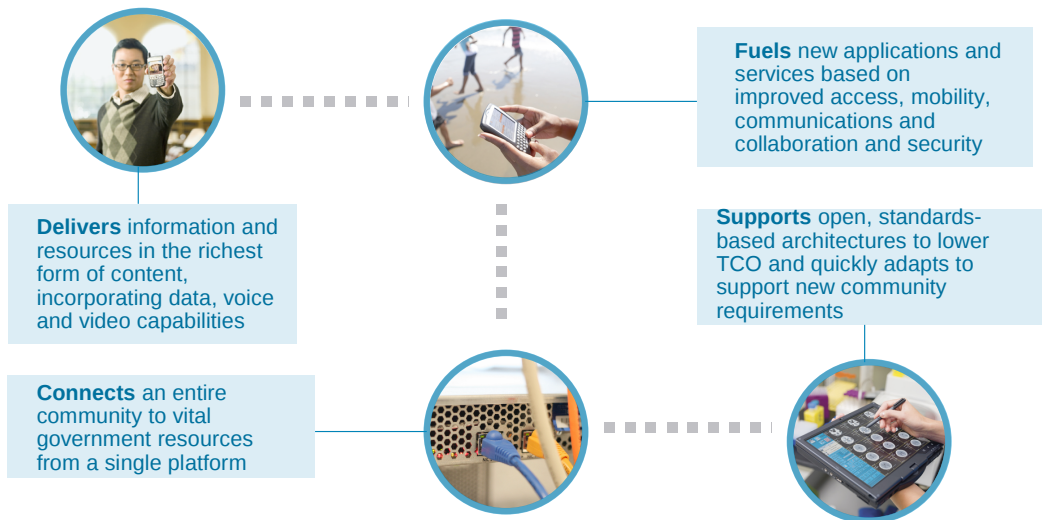
- The Cisco Service-Oriented Network Architecture (SONA) is an architectural framework which aligns Enterprise Architectures, Industry Solutions and our strategic partners offerings, to align our customers IT innovation to their business opportunities and issues.

- Many SONA resources are available, including whitepapers, success stories and podcasts to help you and your customer understand how SONA can make a difference in their enterprise.

- The SONA team crosses all of Cisco, benefitting from the collaboration of CA, Channels Marketing, WWSP, SA Partners and all of our theaters, this team is dedicated to making SONA the key to making the human network a reality for our Enterprise customers.It provides the intelligence to deliver information and resources in the richest form of content incorporating data, voice and video capabilities.

- It provides the innovation to fuel new applications and services based on improved access, mobility, communications and collaboration and security

-       –   This includes public safety applications such as Mobile Incident Command, PSAP, Field Personnel/Vehicle and Video Surveillance to deliver actionable information to the tip of the spear which allows them to make timely and   accurate decisions on the spot.

- It provides the integration to connects an entire community to vital government resources from a single platform.
  -         This provides greater visibility of government operations and of the community.

Speaker: What is the local government architecture for a connected community?

The IP network serves as the backbone for the mission-critical nature of information sharing within a government. This network is designed to be highly available, secure, and high capacity—future-proofing this foundational investment. Agencies connect to each other around the constituents which improves cross government communications and with the community – it includes security that safeguards privacy and confidential information.

Main point – it is critical that all the organizations or agencies are able to work and communicate seamlessly and effectively to do their job = all their jobs at some point come down to supporting or servicing the citizens, business and other group within the community

- This example is showing how a Connected Community can empower their citizens to work with government.

- This example is meant to show an inbound type of interaction with citizens coming to the government to get a service, pay a bill, etc. We are using Tax as just an example – this is applicable to many agencies (list at bottom of slide). There are numerous technologies used in this example and you as the presenter should focus on the ones that you feel most comfortable discussing. At minimum walking through the steps should get the depth of technology and its impact. This example talks about web access with deep security, click to talk capabilities,

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Governments working with Constituents:
Land Management/Permitting Example

1 A new business wants to move into the community and requests an inspection certificate.

2 The city sends out an inspector who can sign off on property and electronically submit reports via wireless without having to return to the office.

3 The inspector can look up additional data in the "Accept Application" stage as well as upload new data and submit it for approval. The inspector can also upload/download photos from the work site to provide richer-quality information about the inspection.

4 With permitting process significantly expedited, both government and the new business benefit. Inspector gives real-time status reports back to his supervisor and visits the next inspection site immediately, while the certificate of completion is issued. Business receives notice that it can move in shortly thereafter.

This type of government communications is applicable to Administration, Public Works, Human Services, Public Safety etc.

- This example shows how technology can make mobile workers more productive. It is an example of the government out doing the job.

- 1. Inspection to certificate issued. The inspector can sign-off on property and electronically submit report via wireless without having to return to office. Inspector can go to next inspection directly, while the certificate of completion issued, which allows utilities to be turned on and move in.

-

- 2. The Cisco OW solution provides the capability for inspector to look up additional data (if needed) in the Accept Application stage. Also at the inspection stage, they can upload new data and submit it for approval. This speeds up the sign off right for the permits. It also allows them to up or download photos from the work site to provide richer information about the inspection. It also gives supervisors real-time information on the progress their workers are making during the day.

Scenario for Public Safety:
Kidnapped Child Example

1 A suspect in a stolen vehicle abducts a child.

2 Witnesses give the emergency operator a vehicle description.

3 A mobile command post is established on scene.

4 Detectives obtain a photograph of the stolen vehicle from the owner; they also identify the suspect and obtain a picture of the victim.

5 Pictures of the vehicle, suspect, and victim are shared with all local law-enforcement agencies.

6 The community alert system electronically distributes the information throughout the city and county.

7 Virtual command post uses videoconferencing and collaboration between emergency call taker, incident commander, and surrounding agencies to rapidly share information.

8 The suspect is located and the child is safely returned home.

- Public Safety Example
- Cisco Connected Community- here is a different version of the previous focused on public safety. more detailed and clear picture by seeing the approach in action. Let's watch it unfold step-by-step:

- 1) A suspect in a stolen vehicle abducts a child.
- 2) Witnesses call emergency services and provide a description of the vehicle.
- 3) A mobile command post is established at the scene.
- 4) Detectives obtain a photograph of the stolen vehicle from the owner. The suspect is also identified, and a picture of the victim is obtained.
- 5) The pictures of the vehicle, suspect, and victim are shared with all local law-enforcement agencies.
- 6) A community alert system is used to electronically distribute information throughout the city and county.
- 7) A virtual command post uses videoconferencing and collaboration between the emergency call taker, incident commander and surrounding supporting agencies to share information in near-real time. All agencies are able to communicate directly while on different systems and frequencies.
- 8) And finally, we come to the happy ending, in which the suspect is located and the victim is returned safely home.

Technology for a Connected Community

Multiple Networks…

| Office & Agency Administration | | | Buildings | | Mobile |

Data — Internet, WAN, Routers, Data Switch, Wireless Access Point

Voice — PSTN, PBX

Collaboration — Video Switch

Video Surveillance

Building Controls and Security

Public Safety and Outdoor
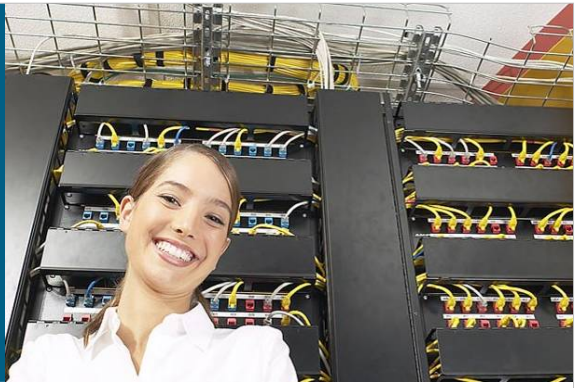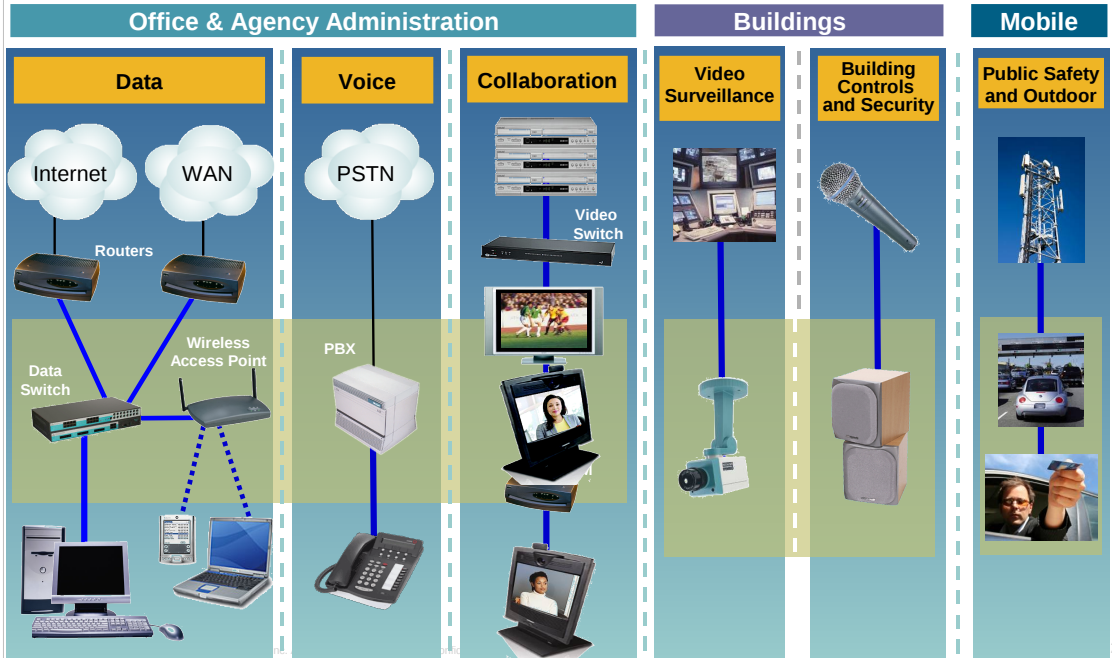
- Traditionally, governments have a data network that support information sharing and information access from the Internet.

- They also have a separate voice network for incoming and outgoing voice communications.

- They also could have a separate video network that delivers video conferencing or educational programming or access to backend systems of VCRs and DVD players, **and** a separate video conferencing network based on expensive, dedicated leased lines.

- Yet another video monitoring network provides video feeds of buildings and hallways…and of course, there is the intercom network for overhead paging and bells.

- Lastly, they have some type of outdoor RF type system with hand held radios for public safety and public works

- The total? At least **six** different networks…six wiring runs, six management systems and multiple experts to operate them. This means much more complexity in management, maintenance and costs.

One Network

Data	→
Voice	→
Video Streaming	→
Video Conferencing	→
PA (Intercom)	→
Video Monitoring	→
Building Controls	→
Safety	→

Secure
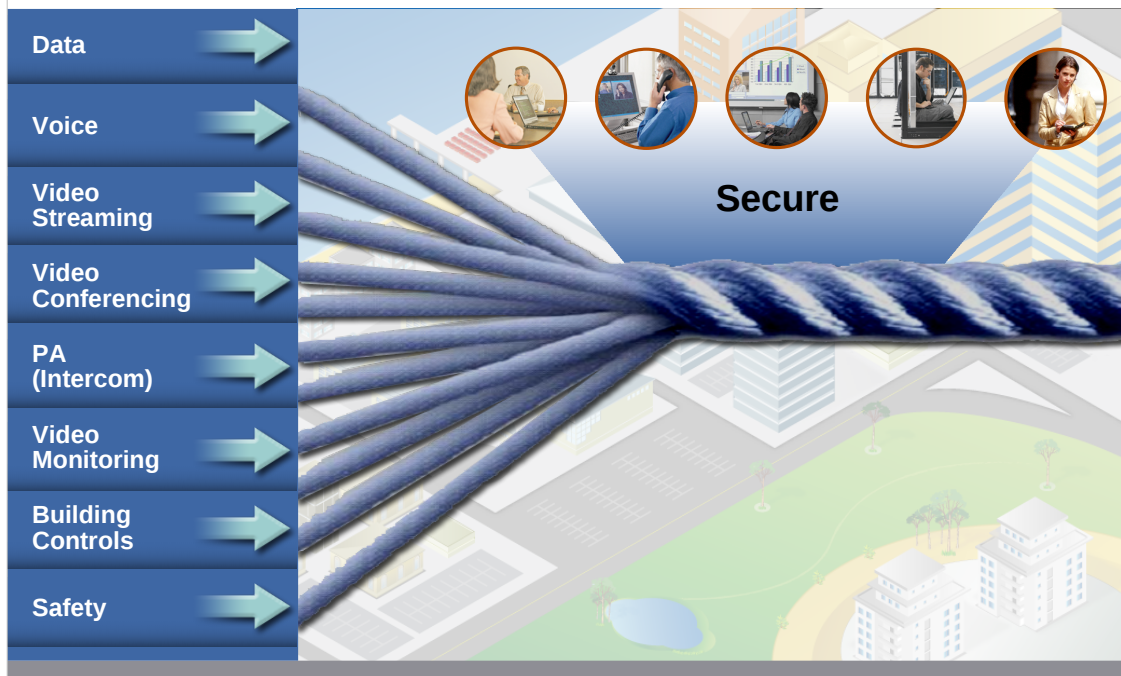
- Cisco Connected Communities shows how governments takes these multiple networks and converges them into one.

- By implementing a Cisco IP infrastructure foundation all of those systems run on one network…one wiring/wireless and…one common management system…it's easier and less expensive for governments to maintain and support and of course, which equates to saved money, time and resources. There are also massive benefits to have all the traffic on one network – it improves communication and collaboration, improves productivity, empowers the citizen, increases safety and security.

Convergence:
Requires Integrated, Pervasive Security
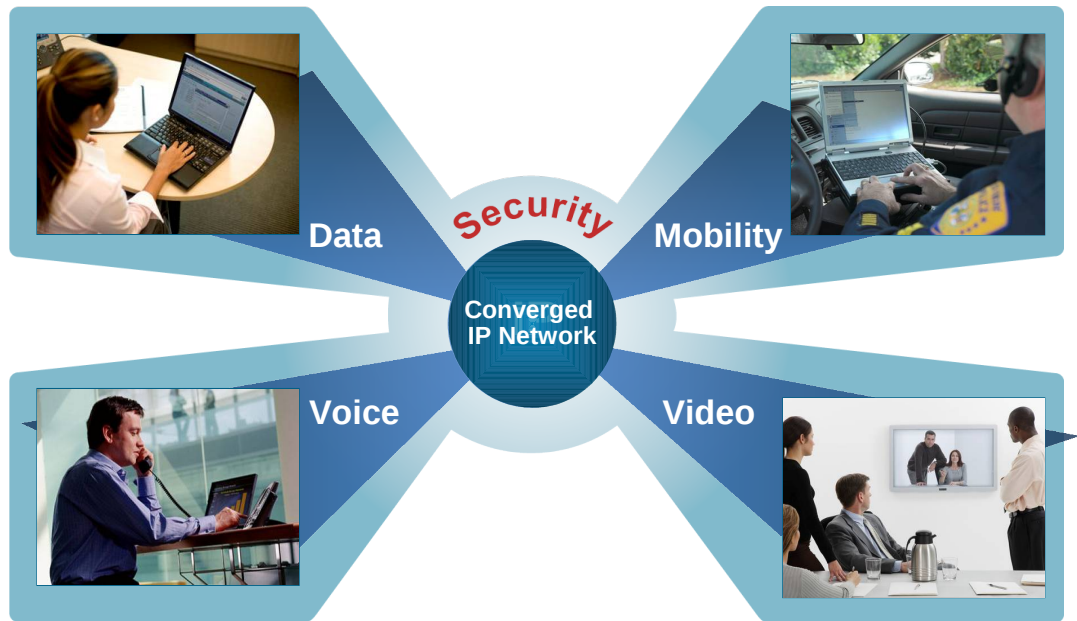
- Key message here is that this all the different communcations (Data, Voice, Mobility, Video, etc.) are converging onto one network and it has to be secure.

The Secure IP Foundation

Components
Industry leading routers, switches, optical and security
solutions that form the basis of a secure, Intelligent Network Foundation

Value
Provides the reliability, adaptability and resiliency to connect people across the
community to vital information and resources

Reliability: protects network from outages, service degradation at peak loads and security
threats as the network scales to support user demand

Adaptability: supports voice, video and data with the ability to introduce new service and
application capabilities via wires and wireless

Secure: integrated security across all levels of network – from the core to the end user

Benefits
Allows governments to extend the reach of rich government resources to the entire
community, while reducing operational costs and increasing service effectiveness.
Built in security at all levels; provides a security strategy for both today's network and
tomorrow's growth
Enables all advanced communications capabilities across the organization

It all starts with the secure IP foundation

One major difference that you will see is that this communication system begins
with your data network. Your data network is the core to offering all the
various types of communications we discussed. It can provide voice services,
video services, and collaboration services both via your wired network and
your wireless network.

Security—Benefits of a Systems Approach
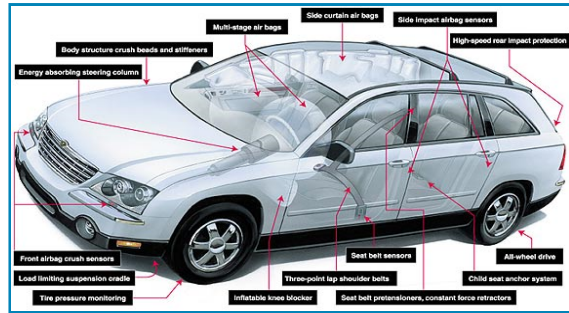
Left column:
- Complex environment
- Gaps & inconsistency
- Lower visibility
- More difficult to manage
- Higher TCO

Right column:
- Simplified environment
- Tighter integration = tighter security
- Greater visibility
- Easier to deploy & manage
- Lower TCO

- **The benefits of such a systems approach are compelling.**

- To illustrate, let's take a look at the car analogy...

- If we look back 25 years the automobile industry was a perfect example of trying to solve a problem of highway safety with a point product approach. Remember when seat belts were an option? ABS systems were an expensive third party extra - and there was no integration of air bags, crumple zones and seatbelts. The result was higher traffic fatality rates. Fast forward to today and we have an **integrated security system** on cars that is both **less expensive and much more effective**.

- **There are many compelling benefits to such a systems approach, when compared to point-solution strategies.**

- First, an systems greatly **simplifies the environment**, and by providing inherently tighter integration, provides **tighter security.**
    - A set of disparate and disconnected security devices will never be able to provide the same level of security that can be achieved through an integrated solution which combines existing infrastructure devices with embedded security solutions, security devices that have and understand native network intelligence, and actualized security policy in a collaborative and adaptive security system.
    - Such a system will ALWAYS provide greater risk reduction than any individual product, regardless of features or performance.

- Additionally, as a systems approach, a SDN also provides **greater visibility** of your end-to-end security, enabling improved security management and policy control.

- A systems approach is also much **easier to deploy**.

- As you can see, simplification is a strategic approach to security, and **ultimately leads to higher TCO**.

Good Security Builds Trust of Citizens

Scams

Compliance

The Citiz... Data Center Remote Site ...ormation Harvesting

Den... Campus City Network ...U...

Ser... LAN

System Level Solutions

Internet

Remote Access State County Extranet ...losure

Attack

New Devices

POSITION

- A change is required in how security is viewed, bought, and deployed. Caused by:

    - The evolution of threats

    - Scope of the enterprise (corporate data center, corp users, branch offices, remote and tele-workers, extranets, partner access)

    - New communications technologies

    - New applications deployment

- Previously, security was generally deployed in the form of point products and often only deployed in parts of the infrastructure – like the perimeter

- The evolution of these threats has made it clear that solutions-based defenses are required.

- That security needs to be an adjective, not a noun.

    - That every element in the IT infrastructure needs to be part of

Good Security Builds Trust of Citizens

Scams

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The Citi... — Data Center — Remote Site — ...ormation Harvesting

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Ser...

System Level Solutions

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Remote Access — State County Extranet

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Improve City Services with Systems Approach—City of Southfield, Michigan

Challenge

- Over-loaded foundation network and complex network management
- Improve communication between offices/agencies and citizens–multiple number exchanges, limited voice mail, etc.
- Better protect sensitive data and communications

Solution

- Cisco Secure IP Foundation products
- Call Processing, IP Phones, and Unified Messaging
- Covering 850+ employees in 24 departments in 18 buildings

Benefit

- Increase service effectiveness by improving network uptime, reduced time of network management and adds, moves, and changes
- Robust infrastructure has reduced cost of network management, maintenance and network outages
- Replacing Centrex system with Cisco IP Communications will save the city $100,000/year
- Enabling Southfield employees to meet Citizens' needs more quickly

Southfield
the center of it all™

Improving Services Effectiveness - State of Illinois Legislative Information Systems

Challenge

- Provide a secure, highly available network
- Support secure deployment of constituency services through an information-rich Website

Solution

- Implementation of Secure IP Network to combat network security threats
- Integration of Secure Connectivity to help ensure flexible yet secure access

Benefit

- Increased service effectiveness:
    - High availability
    - Increased legislator productivity
    - Secure constituency transactions
- Intra-agency collaboration:
    - Secure intra-agency communications
    - Protection of confidential data

3

The Challenges:

- To provide a secure, highly available network

- To support secure deployment of constituency services through an information-rich Website offering streaming audio and video to constituents, where high bandwidth and uptime are critical
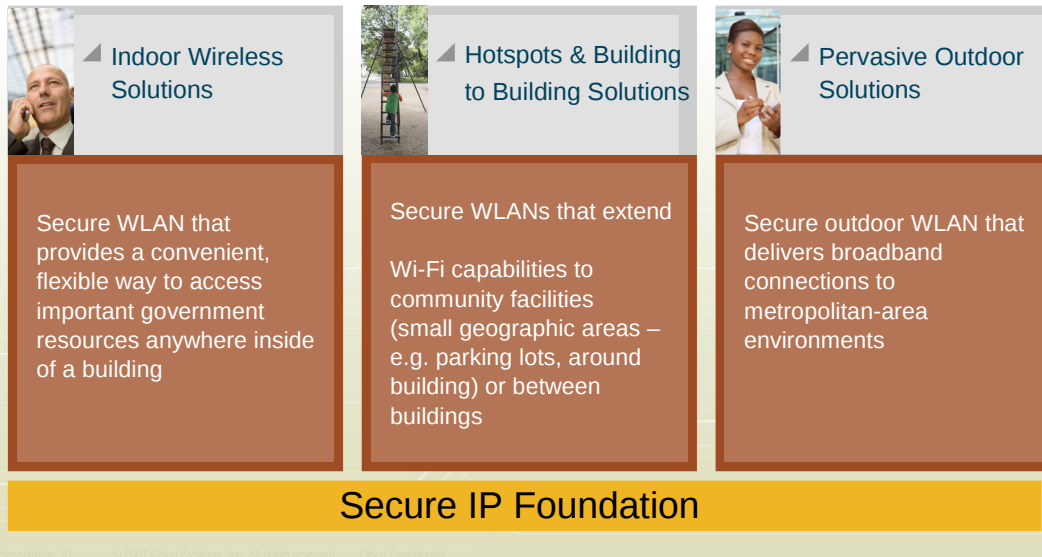
The Solution:

- Implementation of Threat Defense to combat network security threats

- Integration of Secure Connectivity to help ensure flexible yet secure access

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Cisco Wireless Mobility Solutions

Cisco Mobility Solutions for State and Local Governments

Enhance Service Effectiveness, Field Productivity and Public Safety

◣ Indoor Wireless Solutions	◣ Hotspots & Building to Building Solutions	◣ Pervasive Outdoor Solutions
Secure WLAN that provides a convenient, flexible way to access important government resources anywhere inside of a building	Secure WLANs that extend Wi-Fi capabilities to community facilities (small geographic areas – e.g. parking lots, around building) or between buildings	Secure outdoor WLAN that delivers broadband connections to metropolitan-area environments

Secure IP Foundation

- *This is how we are going to breakup the mobility portfolio to explain our solutions to BDM level government*

- *It all starts and is built on a Secure IP Foundation*

- This is how we will walk through the UC portfolio in the other presentation at the CC Roadshow events

- *Cisco Unified Mobility Network Position Statement:*

- Cisco Unified Wireless Network is a secure wireless solutions that provides a convenient and flexible way to access important government resources, inside of a building. Improves field productivity by being able to stay connected to people and information as they go about their day interacting with other personnel and constituents beyond the walls of their office or home environment.

➢ Cisco Public and Private Hot Spot solutions are secure WLAN solutions for creating designated areas for connecting to the network – beyond the walls of an office.

Value

➢ Provides a convenient and flexible way to access important information and resources, on the physical property

Convenient on-premise access in public and private government facilities, including the ability to provide high-speed broadband

Improving Service Effectiveness, Productivity and Safety - Clack County Court System

Challenge

- Antiquated network was becoming overwhelmed by massive growth
- Demands from citizens, court workers and attorneys where difficult to support and negatively affecting efficiency and productivity

Solution

- New Secure IP Foundation connecting all facilities with Wireless and IP based phone system (roll out in process)

Benefit

- Wireless access for employees allows them to be connected anywhere in build which increases productivity and efficiency
- Prosecutors and Defenders can get internet access for research and live presentations in court.
- Phone based interactive voice response (IVR) system reduced live calls from 3200 to 1600 a day, increased average amount the county collects on each ticket by 50% because the convenience of payment makes people less likely to contest

Welcome to the **Clark County Courts**

The Challenges:

- To provide a secure, highly available network

- To support secure deployment of constituency services through an information-rich Website offering streaming audio and video to constituents, where high bandwidth and uptime are critical
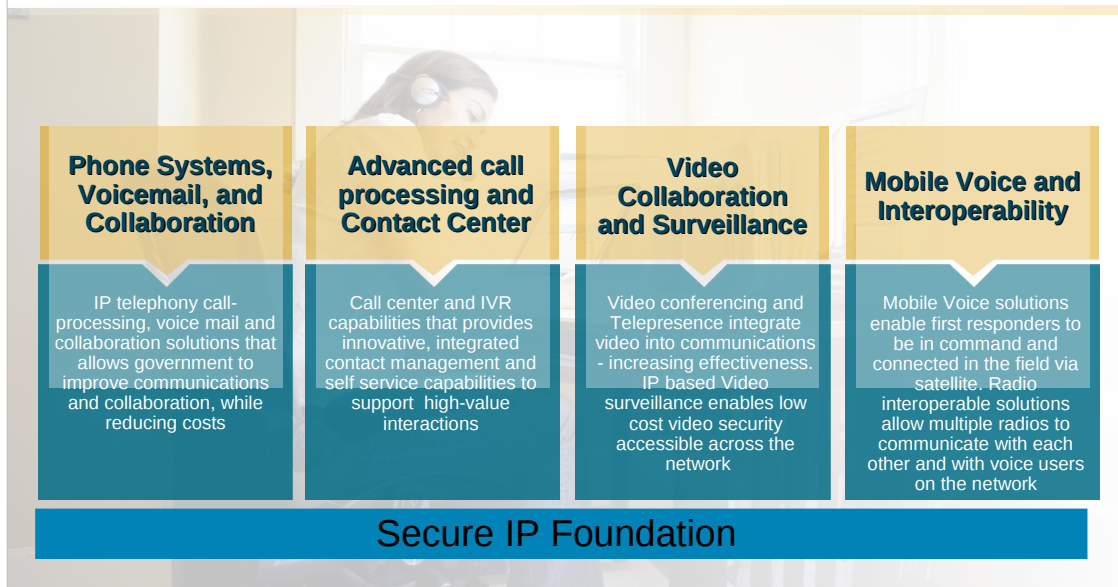
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Cisco Unified Communications

 35

35

Cisco Unified Communications for State and Local Governments

Improve how you communicate and collaborate

Phone Systems, Voicemail, and Collaboration	Advanced call processing and Contact Center	Video Collaboration and Surveillance	Mobile Voice and Interoperability
IP telephony call-processing, voice mail and collaboration solutions that allows government to improve communications and collaboration, while reducing costs	Call center and IVR capabilities that provides innovative, integrated contact management and self service capabilities to support high-value interactions	Video conferencing and Telepresence integrate video into communications - increasing effectiveness. IP based Video surveillance enables low cost video security accessible across the network	Mobile Voice solutions enable first responders to be in command and connected in the field via satellite. Radio interoperable solutions allow multiple radios to communicate with each other and with voice users on the network

Secure IP Foundation

- This is how we will walk through the UC portfolio in the other presentation at the CC Roadshow events.
- *It all starts and is built on a Secure IP Foundation*
- We are attempting to articulate from a high level the main functionally buckets of UC

- Cisco Unified Communications is a full-featured business communications system combining Cisco's industry-leading IP telephony and IP Communications portfolio. It provides advanced and easy-to-use features and functionality to help government personnel to interact more effectively with each other, as well as their constituents. This allows the government to improve communications and collaboration, while reducing costs.

➢ IP call center, including intelligent contact routing, call treatment, network-to-network computer telephony integration (CTI) and multichannel contact management over an IP infrastructure.

Value
➢ Provides innovative and integrated contact management capabilities that allow the government to provide a high volume of high value interactions

- <u>Innovative</u> communication capabilities quickly and accurately prioritize calls and initiate a response.

- <u>Integrated</u> inbound and outbound voice applications with Internet applications enables a single agent to support multiple interactions

Benefits
➢ Allows government to provide much greater operational efficiencies and to improve communications and collaboration, while reducing costs

Foundation to Improve Services – City of Thornton, CO

Challenge

- Unreliable network negatively affected employees
- Management of Data and Voice networks was expensive and burdensome on IT staff
- Needed to improve service effectiveness to citizens, employees and business

Solution

- Upgraded to secure IP foundation
- Introduced voice over IP

Benefit

- Dramatically reduced network down time
- New phones improved internal communication and service effectiveness for citizens
- Reduced network maintenance costs by $50,000 annually

The Challenges:

- To provide a secure, highly available network
- To support secure deployment of constituency services through an information-rich Website offering streaming audio and video to constituents, where high bandwidth and uptime are critical

The Solution:

- Implementation of Threat Defense to combat network security threats
- Integration of Secure Connectivity to help ensure flexible yet secure access

Why Cisco?

Cisco Provides a Unique Partnership

- Unmatched technical expertise
  - 22-year track record as industry leader in networking
  - Decades of public sector expertise and best practices
  - World-class engineers
  - Extensive experience in scalable network design, operations, management, and support
- Unrivaled partnerships
- Highly interoperability solutions
- Cisco® Services
- Cisco Capital
- Extensive Partner Community

Speaker: Cisco provides a unique community partnership in establishing your connected community.

- **Cisco has unmatched underlined technical expertise:**
  - 20-year track record as the industry leader in networking

  - World-class Cisco certified networking engineers with in-depth networking expertise. Cisco has a broad range of technical experts and engineers who understand government needs, standards, and important initiatives.
  - Extensive experience in scalable network design, operations, management, and support.
  - Extensive network deployment experience in the public sector around the world.

- **Unrivaled partnerships**—Cisco maintains partnerships with industry IT leaders to help governments to deploy a highly adaptable network infrastructure and innovative applications that allow them to extract the most value from their investment—and best serve their citizens.

- **Highly interoperable solutions**—Industry-leading, open, standards-based network solutions from Cisco deliver unmatched interoperability, which protects and extends customer investments.

Cisco provides a full range of services to extend network intelligence.

And Cisco Capital offers several favorable financing options.

Next Steps

- Attend the UC, Wireless and Demo portions of this event

- Think about some of the solutions presented today and how they can help you with your challenges

- Talk to a trusted advisor at Cisco

- Review real world case studies and best practices at www.cisco.com