Effective Certification Roadmap Planning for Common Criteria and FIPS

Certification Portfolio Approaches

Sept 24, 2008
9th ICCC, Korea

Su-Chen Lin

Seyed Safakish

Agenda

- Public Sector certifications
  - What are they
  - Why do we care
- US Public Sector Market Growth
- Expanding Network Solutions
- Juniper's Certification Experience
- Certification Challenges, Juniper's Strategies & Recommendations

2 Primary Types of Federal Certifications

- **FIPS (Fed Information Processing Standards)**
  - Issued by National Institute of Standards and Technology (NIST)
  - To coordinate the requirements and standards for cryptographic modules which include both hardware and software components for use by departments and agencies of the United States federal government.
  - Security levels range from Level 1 to Level 4. Level 2 (enhanced physical security) is required for most of Fed Agencies.

- **Common Criteria**
  - A worldwide standard for the evaluation of security functions of Information Technology (IT) products and systems developed by Canada, France, Germany, the Netherlands, the UK, and the U.S.
  - 7 levels of Common Criteria Evaluation (EAL1 thru EAL7; from low to high).
  - Most Fed Agencies require EAL4 for acquired Products.
  - EAL4= Methodically Designed, Tested and Reviewed

Why do we care?

- **REQUIRED by many governmental agencies**
  - Can't get invited to the table without them
- **Increases access to market opportunities**
  - Many NGOs are forced into same requirements
- **Increases margins by eliminating competition**
  - Very expensive and time consuming to achieve
- **Halo effect**
  - Pull-thru sales in commercial sector due to presence in military, intelligence communities

Public Sector Market Size Breakdown & Growth (US PS)

▶ Total study area Public Sector Market Size

▶ Total estimated to be ~$6.14B in 2007, growing to **~$7.81B in 2010**

- 2008-2010 CAGR of 3.6%

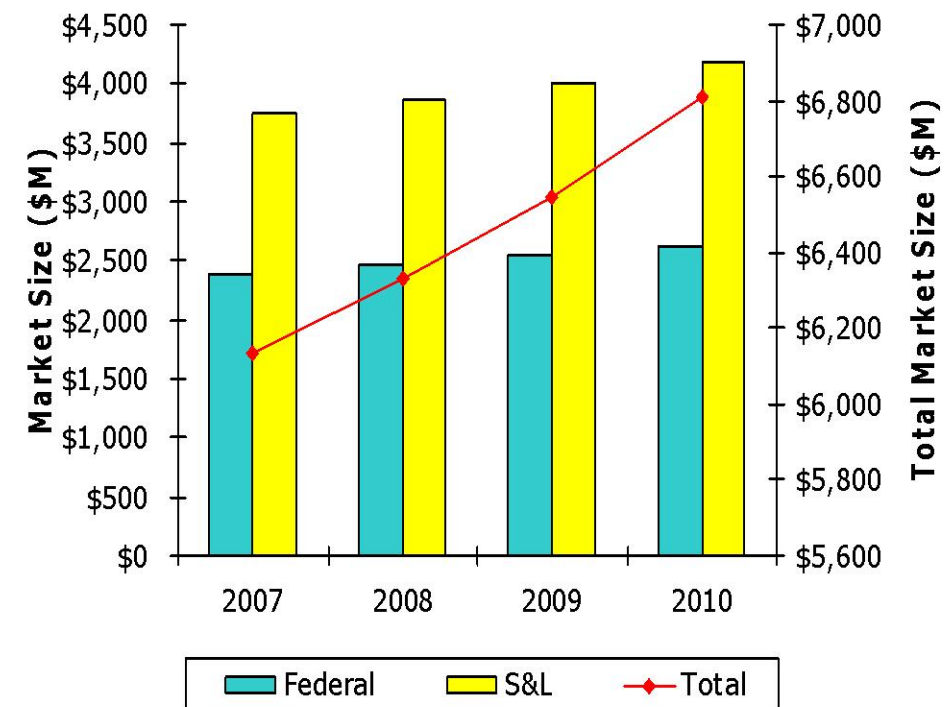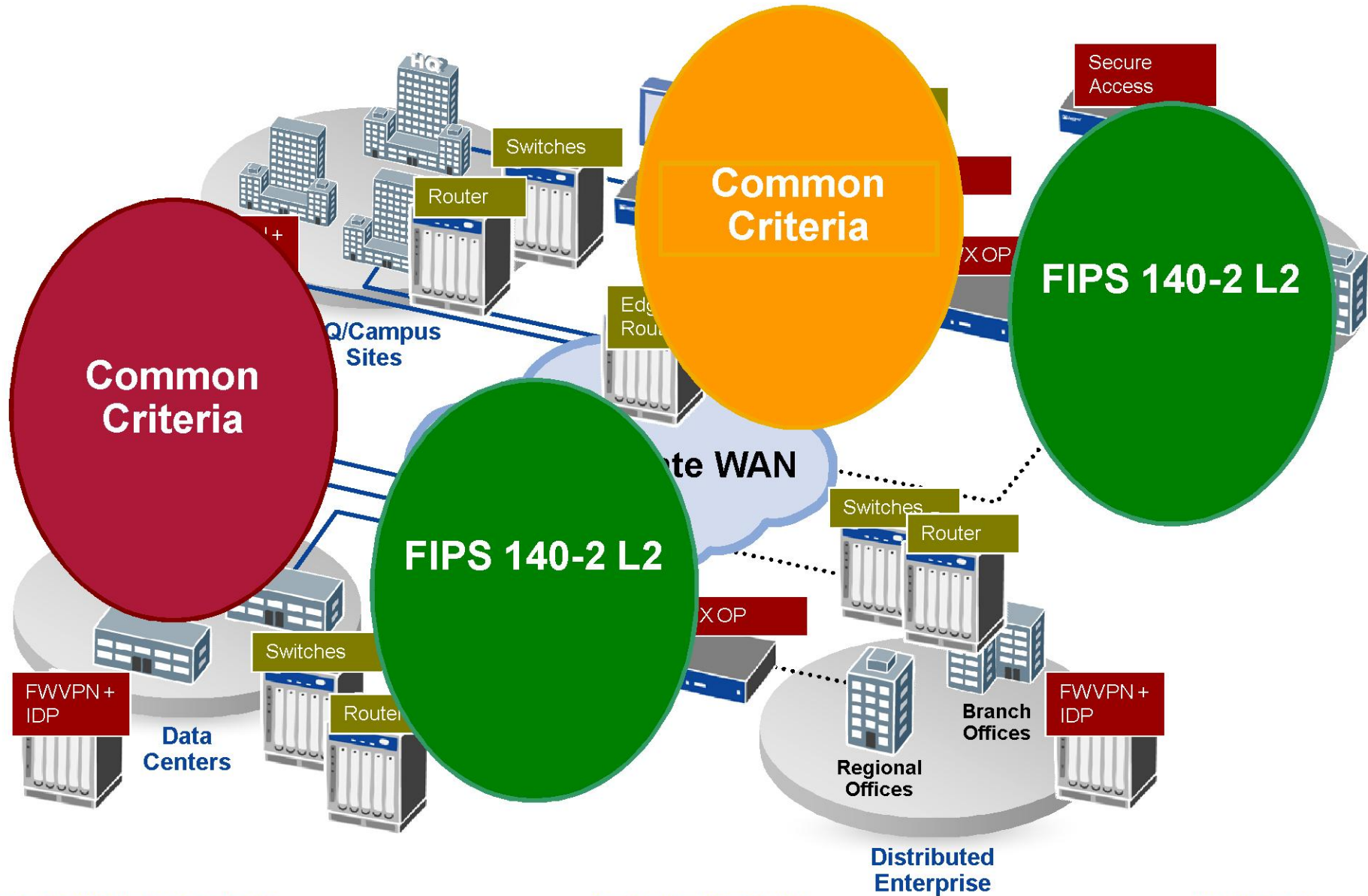- **Federal Market Size** is estimated to be ~$2.39B in 2007, **growing to ~$2.63B in 2010**

  - 2008-2010 CAGR of 3.2%

- **S&L Market Size** is estimated to be ~$3.74B in 2007, **growing to ~$4.18B in 2010**

  - 2008-2010 CAGR of 3.7%

Public Sector Government Market Size 2007 - 2010

Juniper's Certification Experience

- **Common Criteria Experience**
  - 1st CC EAL2 Certification on JUNOS achieved in 2004
  - CC EAL4 & EAL4+ on Security product achieved in 2003
  - 9 of total CC Certificates obtained to date,
  - 4 ongoing CC evaluations (EAL3 and EAL4 with MRPP)

- **FIPS Experience**
  - 1st FIPS on JUNOS achieved in 2003
  - FIPS L2 Security product achieved in 2003
  - 14 of total FIPS Certificates obtained to date,
  - 10 ongoing FIPS evaluations

- **Product coverage across Firewalls, Routers, Secure Access, Intrusion Detection, Universal Access Control, Odyssey Access Control and Network Management**

Juniper's Certification Experience (continued)

Juniper Federal Certification (FIPS & Common Criteria) Completed Project List			
	Level of Certification	**Product/Platform**	**Software Release**	**Completion Date**

	Level of Certification	Product/Platform	Software Release	Completion Date
JUNOS	CC EAL3	M/T/J	JUNOS 8.1	Q2 07 - Completed
	CC EAL3	Network Management	Junoscope 8.2	Q2 07 - Completed
	CC EAL2	J (Packet-based)	JUNOS 7.3	Q2-06 - Completed
	CC EAL2	M&T	JUNOS 7.4	Q4-05 - Completed
	FIPS 140-2 level2	AS2-FIPS-PIC-rev roll	JUNOS 7.2 & 7.4	Q4-06 - Completed
	FIPS 140-2 level2	M/T/J	JUNOS 7.2 & 7.4	Q4 06 - Completed
FW/VPN	FIPS 140-2 level2	NS-5XT, NS-204/208, NS-500	ScreenOS 5.0.0r9	Completed in Q2 05
	FIPS 140-2 level2	NS-5200 2G24FE,	ScreenOS 5.0.0r9	Completed in Q2 05
	FIPS 140-2 level2	NS-5GT	ScreenOS 5.0.0r9	Completed in Q3, 05
	FIPS 140-2 level2	ScreenOS5 with NSM Support	ScreenOS 5.0.0r9	Completed in Q4 05
	Common Criteria EAL4	All 5.0 platforms except HSC, WLAN (5GT) and ISG w/ IDP	ScreenOS 5.0.0r9	Completed in Q1 06
	CC EAL4 (Low-Risk PP)	All 5.4 platforms except HSC, WLAN (5GT or SSG) and ISG w/ IDP	ScreenOS 5.4 R4	Completed in Q2 07
	FIPS 140-2 level2	ISG 1000/2000 w/o IDP; SSG 520M/550M, NS-5200/5400 (MGT2/SPM2), and SSG5/20 (w/o WLAN)	ScreenOS 5.4 R4	Completed in Q2 07
Others (IDP/NSM, SSL, UAC/OCA)	Common Criteria EAL2	IDP 50, IDP 200, IDP 600C, IDP 600F, IDP 1100C, and IDP 1100F	IDP 4.0/NSM2006.1	Completed in Q3 06
	Common Criteria EAL2	Secure Access 2000, 4000, 6000, 3000FIPS, 5000FIPS	5.1R2	Completed in Q4 05
	CCTM (UK CSIA)	SA4000FIPS, SA6000FIPS	5.4r2	Completed in Q2 07
	FIPS 140-2 level 1	Odyssey Security Component	Odyssey Client FIPS Edition v4.32, v4.51	Completed in Q3 05
	CC EAL3 + WLAN Client PP	Odyssey Access Client	Odyssey Access Client 4.56 FIPS	Complete in Q2 08

Challenge, Strategy and Recommendation -1

Challenge	Significant numbers of certification requests
Juniper's Strategy	1. Understand the Market Segments 2. Filter in Real Market Requirement (Covering 3-5 year Market input) 3. Select appropriate Type, Level of certification & Locality for certification 4. Consider Other requirement additions (PP conformance, ICSA, FIPS, TIC, JTIC, other regional requirements, etc)
Recommendation	Know your market segments well and understand your customer's needs

Challenge, Strategy and Recommendation -2

| Challenge	Costly and lengthily certification process
Juniper's Strategy	1. Initiate Evaluation during early phase of development. 2. Line up internal resources 3. Secure Funding for Programs 4. Establish long term partnership with preferred lab and consultants. 5. Bundle Similar Products into One Evaluation.
Recommendation	Do centralize planning, early coordination between groups and leverage resources across programs.

Challenge, Strategy and Recommendation -3

Juniper's Certification Strategies (Sample Roadmap)

![Juniper NETWORKS®]
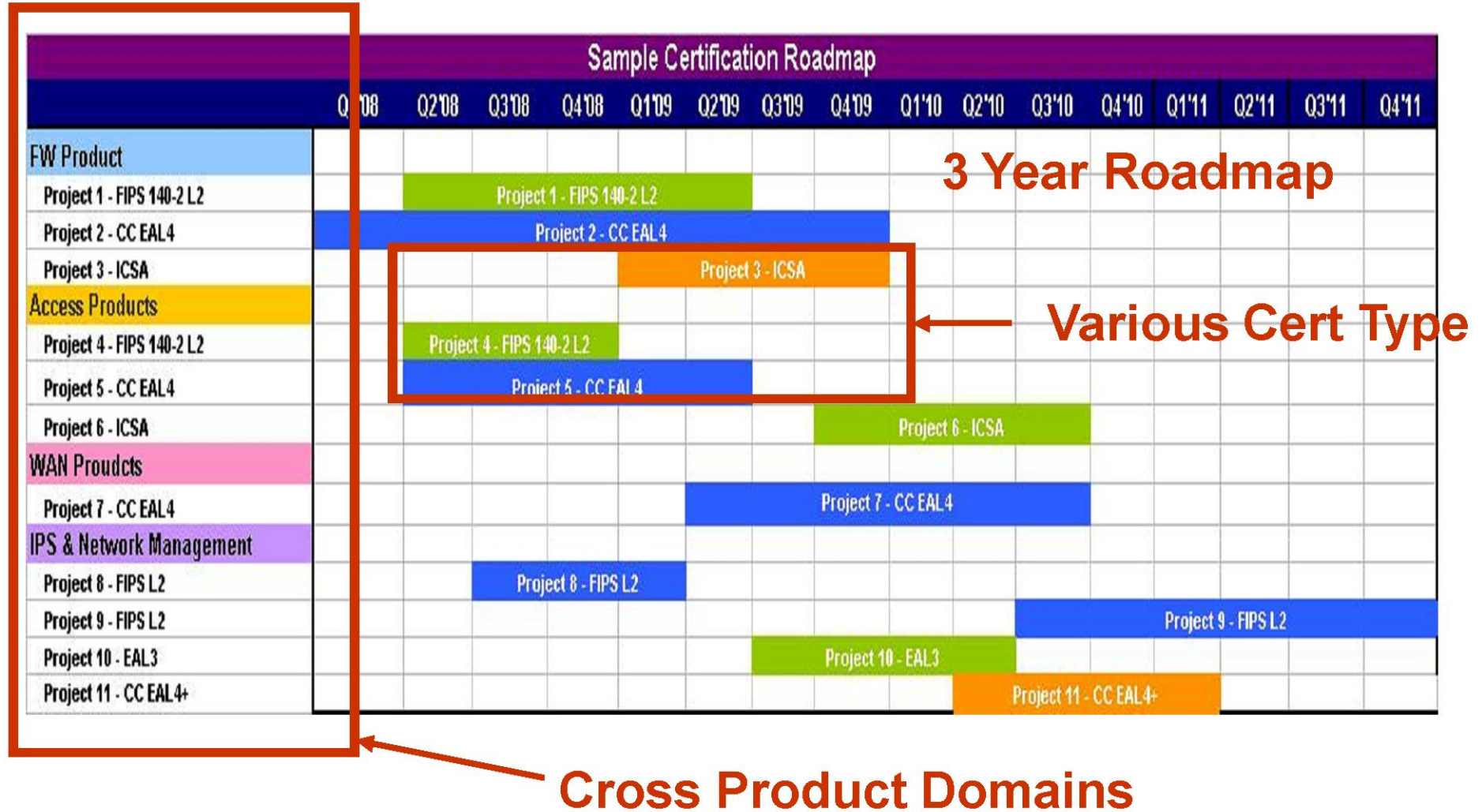
Challenge, Strategy and Recommendation - 4

Challenge	**Short shelf life of certifications**
Juniper's Strategy	1. **Imbed Certification processes into development planning cycle** 2. **Plan for Extended End of Live Release** 3. **Use Assurance Maintenance on interim releases** 4. **Leverage delta re-certification to add additional platforms or minor feature additions.**
Recommendation	**Certify on EEOL releases & leverage Assurance Maintenance if possible**

Challenge, Strategy and Recommendation - 5

Challenge	Effort intensive tasks and burden on internal resources
Juniper's Strategy	1. Obtain Management Buy-In & Approval 2. Partner with external Certification Consultants and Experts 3. Collaborate across Business Domains and product groups 4. Reuse documents from previous evaluation 5. Commit dedicated resources for cert efforts
Recommendation	Leverage Internal and External resources across programs

Challenge, Strategy and Recommendation - 6

Challenge	**Certification Execution and Monitoring**

Juniper's Strategy	1. **Track & update Certification Roadmap** 2. **Create a company wide awareness around Public Sector certifications.** 3. **Maintain close communication between Fed sales and Engineering Organization** 4. **Keep the stakeholders informed**

Recommendation	**Keep close communication with the stakeholders**

Speakers' Contact Info

- **Su-Chen Lin**
  - Senior Security Certification Program Manager
  - sulin@juniper.net
- **Seyed Safakish**
  - Director of Public Sector Marketing
  - seyeds@juniper.net

Q&A