Where Our National Security Begins...
Viable “Pay for Use” Software Licensing Model & ELAs Across Agency, User Bases

NRO ASP IAWG Action Team Report
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The Licensing Spectrum:
What is a Viable “Pay for Use” Model?

“Pay For Use”
- Based on actual usage
- Metered or Tiered
- No long term commit
- No capital investment
- Support costs embedded
- Services separate
- ELA does not apply

“Term”
- Buyer ‘leases’ licenses for fixed term
- Priced by projected user/usage
- End of term govt owns/owes nothing
- Includes support & in-scope upgrades
- Services separate
- “ Lease to Own” is problematic
- ELA may apply (term limited)

“Perpetual”
- Buyer owns & capitalizes
- Priced by projected user/usage
- IT53/300 capitalized investment
- Support & upgrades vary
- License + Support components
- Services separate
- ELA is viable option

“Government Services Model”
- Software provided at no cost or low cost as part of “services” contract
- Government-proposed alternative to licensed software approach

“Unlimited” only applies to term & perpetual; requires named usage
License Model Spectrum: Term & Perpetual

**Term Model**
- Buyer “rents”; end of term govt owns/owes nothing
- Fixed term
- Includes support & in-scope upgrades
- Viable as “try before buy” in Pay For Use model
- ELA is viable in this model
- “Lease to Own” is problematic
  - S/W worth more after multiple years of usage
  - Future purchase date precludes revenue recognition
  - Partner can assume risk by buying then leasing to govt

**Perpetual Model**
- Buyer owns & capitalizes
- Two components: license & support
  - 1st year must be included in price
  - Year 2+ support separate; typically a % of perpetual price with escalator that can be capped
- ELA is viable in this model

“Unlimited” only applies to term & perpetual and requires named usage
Pay For Use Alternatives

Pay for Use “Subscription” models trade price for flexibility, CapEx for OpEx

“Utility Approach”
- Metered approach based on actuals
- Use zero, pay zero
- Usage breakpoints may improve pricing

“Cell Phone Data Plan”
- Tiered approach based on actuals
- Minimum floor
- Pre-negotiated levels
- Maximum cap

Common Properties
- Both are “Subscription” approaches: no ownership assumed by government
- “ELA” not applicable (cannot provide uncapped use for indefinite period of time)
- No long term commitment allows government complete mission flexibility
- No capital investment (IT300) but portfolio planning still applies (IT53)
- Support costs embedded to pay for use fees
- Services provided & invoiced separately from software use
A Viable Tiered Model: Combining Term and Pay-For-Use

Value of Software Increases with Usage over Time
Goal: actual value derived equates with price paid & total cost

Pay For Use Model

- 12 month Forward Looking “True Ups”
- Pre-negotiated Pricing on usage levels
- Maximum Negotiated Usage
- Decremented Cost

Free or Nominal charge
6- or 12-month Term Unlimited Use

True ups are “forward looking” going up & coming down

Best practice: use metrics that convey the value: seats, cores, data?

NRO ASP IAWG
What’s the “Y-Axis”? Look beyond “per user” for Pricing Parameters...

- Many options: users, cores, servers, data processed, triples delivered, queries, etc.
  - Best practice: use the metric most appropriate for the value delivered
  - Lower price comes at cost of time commitment and usage constraints
  - Beware of unintended consequences (e.g. IT upgrades affecting cost, in case of per core)

- SLA-based approaches where infrastructure is included (C2S) provide predictability
  - Measured by performance, function, amount of data, etc.
  - “Tuning knobs” equate pricing to value derived (e.g. like is done in dB-as-a-service)
  - Probably not viable in GovCloud or CME/AUE, as infrastructure trades not connected to S/W SLAs

- Industry perception on government biases:
  - CO’s focused on price rather than value derived (PM’s focus on both)
  - Purchase/capitalized software preferred over subscriptions, leases, or term licensing

- Acquisition programs and users of the software to discuss the actual value add of software, then convey in pricing negotiations with industry.
**Pay-For-Use Considerations: Implementation**

- **When is pay-for-use appropriate?**
  - Variable scale, shifting requirements, discovery phases
  - “If I can’t predict my requirements or workload, why would I pay for something I might not use?”
  - Elasticity and flexibility come at a “price per” premium, but no long term commitment

- **When is pay-for-use not appropriate?**
  - Stable, production systems with deterministic workloads
  - “If I know I’m steady state for 5 years, why pay by the hour?”
  - Capitalizing (buying) long term instances is more cost effective than pay for use (subscribing)

- **Industry base considerations**
  - Quality of Service requirements directly impact capitalization and staffing
  - Predicting required support levels is very difficult to get right
  - For companies gauged by backlog, pay for use has negative effect on projections
  - Valuations based on IP and products are fundamentally higher than services
  - “Revenue Recognition” from bundled software + services subject to FASB practices
Pay-For-Use Considerations: Licensing Issues & Concerns

- How are outages and expirations handled?
  - Who pays while software is down?
  - Service Level Agreements vs User expectations (potential 3rd Party service)
  - Is Support part of the Pay for Use fee? (Govt preference: use technology for “free”)

- How does government measure usage w/out vendor insight?
  - Inside the firewall metering is a threshold requirement
  - Metering capabilities are available...but is there a model to use it?
  - Measurement periods must be pre-negotiated
  - Outsourcing to C2S provider shifts accountability burden but doesn’t mitigate risk

- Who is responsible for deprovisioning? Potential for uncapped cost or risk
  - User may discontinue use but government still on hook if instance not removed
  - Data policy must go hand in hand with governance: evacuate it? Persist it?
  - Onus on the framework integrator? The ISP? The Platform provider?

- How does government program and pay?
  - Industry aligns to procurement avenues, government aligns to budget elements
  - “Follow the sun” support model does not apply: adds cost on smaller user base
Question: How do we migrate from standalone systems to an ISP-ASP implementation?
- NRO currently has licenses for NRO owned or leased hardware that are not portable to non-NRO
- For different platforms & hardware: must negotiate portability into the agreement

Issues:
- Consider grand-fathering or making a clean break?
- Industry won’t vary maintenance based on who’s logged in; Government may reject a “clean break”
- Transitioning from perpetual ELA to Pay for Use disrupts existing installs.

Options:
- Value of existing software is recognized and can be carried forward (function of time/size of install base)
- Everything is negotiable...

Finding:
- If licenses are already purchased, portability is about the maintenance agreement, with the “licensed user base” being the issue that carries forward from the license purchase.
- Must figure it out to enable “bring your own license”
- SUBSCRIPTION MODEL “MAY” OBVIATE THIS ISSUE
Pay for Use Considerations: Bundling Software & Services

- Government routinely requests services around the technology/software

- Industry subject to Federal Accounting Standards Board practices:
  - Revenue for software associated with services cannot be recognized until the services are complete
  - Further research: Does this apply to efforts where the services are actually making code changes or does it equally apply to COTS implementations?

- Software is a tangible asset subject to FAR and IT53/300 policies
  - Government cannot accept ownership for “free”
  - Subscription ≠ ownership
  - Applies to both GOTS and COTS software
Pay-for-Use Software Delivery at “Point of Use”
Emerging C2S/AWS Model

- Government “desire” that software companies make their technology available via AMI.
- Mechanics:
  - Vendors establishes Amazon as a reseller to put software in C2S AMI
  - Amazon makes instances of software available as “pay for use” and upcharges govt
  - Amazon pays vendors for software “actuals” used net of reseller fee
- Implications
  - Makes Amazon a software reseller/fulfiller…one of many
  - Essentially turns C2S into a directed sourcing vehicle
  - Full and open competition is still a requirement…how does government trade?
  - Would have to allow for option to source outside AMI and load onto an instance
- Recommendations:
  - Government must conduct market research for best pricing in a full and open competitive environment (AMI is but one source)
  - Government could delegate competitive sourcing requirement to C2S
Recommendations

- Develop “Software Business 101” for government (possible IAWG activity)
  - How capital is invested to create capabilities without government investment
  - The role of profit: innovation and securing capital for tomorrow
  - Product vs Services business motivations and incentives

- Recognize that not one size fits all!
  - Must fit the licensing model to the program
  - Requirements basis must include the right factors

- Recognize that revenue recognition rules:
  - Preclude “unlimited use” without term or perpetual agreements
  - Limit the extent to which services can be combined with software

- Consider developing a “Decision Framework” for PMs
  - Based on program requirements, objectives, and acquisition “factors”
  - Example: are requirements well defined and stable (perpetual) or are they evolving and dynamic (pay for use)?
  - Gartner may have a Decision Framework…would need to tailor for Public Sector
“Open source first” Approach: only buy licenses for tools/apps if absolutely necessary.
  – Procure via “Support contract approach” vs license
  – Industry gives/sells software outright and government issues a 2-3 year “support” contract
  – After buying tool/app, government looks for "open" and/or government owned software to compete or replace the commercial code.

Applicable Statutes, Regulations, and Policy...among others
  – 10 USC 2377: Preference for Commercial Items
  – 41 USC 7-431: Definition of “COTS”
  – FAR Part 10 & 12.101: Acquisition of commercial items, Market Research for Commercial Items
  – DoD CIO policy memorandum dated 10/16/2009

Industry Observations
  – Most COTS software companies incorporate OSS in their products already
  – Software is a tangible asset whose value increases with use. Government cannot accept “free”.
  – Terminology: “Support” is break-fix and DR resolution, “Services” is labor to integrate, etc
  – There is great confusion on GOTS vs COTS and OSS as COTS statutes and regulations
  – Uncertainty and confusion are barriers to adoption, especially if business impacts are unclear

Topic for Next Action Team: GOTS v COTS v FOSS Business Models