South Carolina Statewide Information Technology Shared Services

ENTERPRISE TECHNOLOGY ARCHITECTURE PRINCIPLES
The State’s Enterprise Technology Architecture will address a 3-year target state horizon

Rationale
• An agreed-upon horizon is needed so that architects for different topics have a synchronized understanding of the development of SC requirements and of technologies in the marketplace
• A three-year horizon for architecture does not mean that the architecture must be implemented in 3 years, merely that the target state
• Three years is reasonable because shorter time frames can be too influenced by tactical concerns, and longer time frames can be too speculative for practical planning
• Supports achieving a balance between driving innovation and leveraging current investments
• Given that the State’s budget process also uses a 3 year view it makes sense that the ETA planning horizon be set at a similar point
• This will be a “rolling 3 year” window that will be updated annually
The Enterprise Technology Architecture will apply to all IT at all State Agencies

Rationale

- The ETA is a tool for driving standardization for cost efficiency as directed by Executive Order. The scope of standardization is not limited to technology hosted within the shared services environment; it includes all Cabinet-level Agency IT directly and must include smaller Agency IT as well to achieve the State’s goals.
- Any Agency systems that are future candidates for consolidation need to be designed from the start to be compatible with shared services infrastructure.
- A robust exception process will be instituted to address Agency-unique needs and other exceptional circumstances.
ETA Principles – Architecture Compliance

**ETA is a suggestion**
- Consensus is much easier to reach
- Lightweight - no compliance processes needed

**What degree of compliance is desired?**

**ETA compliance is mandatory and enforced**
- Adoption/compliance is assured
- Reduces uncertainty for projects, contracts, etc

We seek 100% compliance with the ETA but will allow exceptions through a well-defined governance process

**Rationale**
- The architecture will only be effective if it is followed
- The ETA development process will be designed to be inclusive of diverse agency requirements and objectives; if this is achieved there should be little need for non-compliance except in the case of unique needs or new requirements
- A well-defined and documented governance process will be created to permit Agencies to request exceptions where needed
ETA Principles – Architecture Diversity

Promote diverse architectural approaches
- Flexible for different needs and use cases
- Allows for more innovation

Do we seek to establish one or many architectural models for each technology capability?

Single Standardized Model for each service
- 100% standardization
- Simpler to understand, apply, measure

Prefer fewer, but some domains will require more

We strive to standardize on as few architectural approaches as possible, but expect that the number will vary by domain and subject area

Rationale
- The preference is to define fewer architectural approaches in the ETA, as that will provide greater standardization and cost efficiency and make the architecture simpler to apply
- However, some technology areas will require multiple architectural solutions to be supported due to diversity of Agency requirements or current state investments. The degree of variability will be addressed topic-by-topic by the architects for each domain and approved by the Security and Architecture Review Board (SARB).
**ETA Principle – Technology Maturity**

**Mature Technology Only**
- Increased confidence in technology solutions
- Higher marketplace availability of technology, skills, and support

**Seek “Bleeding Edge” Technology**
- Takes advantage of latest technology advances
- Enables business process innovation

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The ETA will favor market-tested technologies, but will allow less mature technologies to be used where needed to respond to new risks, such as in Security Technology

**Rationale**
- The State prefers architectural approaches and technologies that have been proven in the marketplace in order to reduce the risk associated with new technology
- The State also favors technologies that can be sustained with the State workforce, and do not require the State to seek scarce skills from the market
- However there are areas where new technologies are needed to deal with emerging business risks, such as in Security. The State will accept a lower level of technology maturity where it provides a clear advantage in overall risk management
**ETA Principle – Vendor Market Position**

### Market Leaders Only
- Higher marketplace availability of technology, skills, and support
- Increased confidence in long-term viability of solutions

### Hungry startups and challengers preferred
- Better terms and more attentive support
- Greater vendor readiness to customize solutions to meet SC needs

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What is our preference for the market position of vendor/product standards, where needed?

Where vendors or products are identified in the ETA, we will favor vendors that are identified as Market Leaders or Challengers

**Rationale**
- In those circumstances where the architecture drives us to identify vendor or product names, the State will seek to use vendors that have a high ability to execute
- Will identify Market Leaders and Challengers using Gartner Research Magic Quadrants as a neutral reference
 eta principle - solution integration

prefer integrated suites
- integration comes in the box
- maximizes vendor relationships

prefer best of breed
- allows better fit of solution to unique needs
- more diversity of vendors

what is our preference for integrated product suites vs best of breed?

will vary by solution

the state has a preference for solutions that minimize the need for custom integration, but expects high variability from one solution to another

rationale
- the state prefers solutions that do not require complex integration. pre-integrated suites are therefore preferable to best of breed approaches
- however, this position is likely to vary across solutions, as integrated suites are not available for all technology services
ETA Principle - Cost Sensitivity

**Aggressive Cost Containment**
- Reduced capital spend for new infrastructure
- Makes business cases for architecture adoption easier

**Seek to Invest**
- Enables more innovation and functionality
- Can enable longer-term cost efficiency

**What is the posture towards costs of infrastructure?**

The Architecture should balance cost containment and investment in new technology

**Rationale**
- The State needs to balance investment in innovative technology that brings improved long-term cost efficiency and functionality with reduced capital spend
The ETA will specify services and packaged applications over custom developed software for any infrastructure applications

Rationale
- The State does not wish to develop, own or maintain custom applications
- Cloud and SaaS solutions are the State’s first preference
- Reuse of existing, and purchase of new COTS/GOTS packaged software is also acceptable
- A well-developed and documented exception process implemented by the SARB and the other Shared Services governance boards will allow for custom software to be specified in the architecture by exception, where justified
ETA Principle – Preservation of Current Architecture

<table>
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<tr>
<th>Disregard current architecture</th>
<th>Preserving as much as possible of current architecture</th>
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<tr>
<td>• More freedom to meet emerging needs with new approaches</td>
<td>• Easier migrations/implementation</td>
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<tr>
<td>• Creates opportunity to eliminate technical debt</td>
<td>• Preserves value of existing investments in technology, procedures and skills</td>
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What degree of change from the current state is appropriate when developing the ETA?

The ETA will leverage Agency best practices wherever possible but will allow for new approaches and solutions.

Rationale
• Preserve current approaches used by Agencies, where they reflect industry best practices and are readily leveraged by the entire enterprise
• Build new in case of obsolete and deprecated architectures
What is our position on open standards?

- Less chance of being locked in by a specific technology and/or vendor.
- More vendors can participate to offer solutions.

Vendor-specific Standards are always acceptable
- Leverages unique capabilities of vendors and products
- Aligns well with a Suite (vs Best of Breed) preference

Open standards only

The ETA will favor vendor-agnostic standards but allow for vendor-specific architectural standards where required

Rationale
- Vendor-agnostic standards allow greater flexibility at the product/solution level, and enable interoperability between disparate solutions.
- Vendor-specific standards will be considered where they are the de facto industry standard and/or they allow the State to best meet its objectives. The SARB will consider all proposed standards for approval as part of the architecture development process.
ETA Principles – Technology Management

High-touch support is preferred

- Greater customization of support services
- Higher customer satisfaction with support

What degree of in-person management is required?

High

Zero management technologies only

- Reduced operating & resources costs
- Resources can be centralized

Minimize resource demands

The ETA will strongly favor technologies that support high automation and limited management

Rationale

- The State strongly prefers architectural approaches that minimize the need for on-site labor and for specialized skill sets. Consequently approaches that allow automation or remote management will be favored.