



WASHINGTON STATE
DEPARTMENT OF
E C O L O G Y

2007-2009 INFORMATION TECHNOLOGY STRATEGIC PLAN

February 19, 2008

Publication #08-01-016

TABLE OF CONTENTS

I. PLANNING APPROACH.....3

II. FOUNDATION FOR IT PLANNING.....5

 A. Focus on Key Priorities 5

 B. Future Priorities 6

 C. Just-in-time Strategic Planning 6

III. LIMITATIONS IN TECHNOLOGY AND GOVERNANCE.....7

IV. INFORMATION TECHNOLOGY STRATEGIES9

 A. Long-Term Enterprise-Level Technology Initiatives 9

 1. Data Integration Initiative 9

 2. Connectivity and Access Initiative 11

 B. Strategic Changes in IT Governance 15

 1. Outsource Non-Strategic IT Functions 15

 2. Align Tactical/Operational Decisions with Strategic Principles 15

 3. Focus on strategic infrastructure. 19

 C. Agency Organizational Changes for Managing IT 19

 1. Elevate Importance of Strategic IT Functions 19

 2. Re-align IT Investment and Budget..... 22

 3. Central Control of Strategic IT Decisions 24

 4. Manage Technology as a Strategic Asset 26

V. CONCLUSION27

I. PLANNING APPROACH

In the spring of 2007, Ecology's Director of Administrative Services contracted with Diane Vasarkovy of Wolf Consulting to lead the development of this new information technology (IT) strategic plan. The previous plan is dated 2001.

The consultant gathered input from all areas of the agency to ground this plan in business needs and IT realities. To obtain program input, she facilitated brainstorming sessions with the management teams of each of the agency's programs and other offices. In addition, she interviewed many individuals and reviewed a selection of plans and other documents. Input sources were:

Group Input Sessions	Communication and Education Employee Services (now Human Resources) Financial Services Administrative Services (several) Air Quality Environmental Assessment Hazardous Waste & Toxics Reduction Nuclear Waste Shorelands & Environmental Assistance Solid Waste & Financial Assistance Spills Toxics Cleanup Water Quality Water Resources Southwest Regional Office IT Steering Committee Business and IT Advisory Council
Interviews	Director, Jay Manning Special Assistant to Director, Janice Adair Special Assistant to Director, Josh Baldi Special Assistant to Director, Joe Stohr Director of Governmental Relations, Ted Sturdevant Deputy Director DIS, Jim Albert DIS executive, Cammy Webster DIS executive, Laura Parma Data/Application Security Architect, Miles Neale Network Architect, Jim French Application Architect, Son Tran GIS Architect, John Tooley IT Lead: Toxics Cleanup, Wayne Allenton Admin Services Director/CIO, Carol Fleskes IT Planner, Bob Monn Applications & Data Services Mgr, Debbie Stewart Network & Desktop Services Mgr, Mary Ellen Bradley

Documents and Plans	Ecology Strategic Plan, 2007-2009 IT Strategic Plan, 1996 IT Strategic Plan, 2001 Ecology Web Site Current IT Priorities List ITSC Charter BITAC Charter Software Development Center Various Washington State IT direction documents and plans
----------------------------	--

After data gathering, the consultant grouped all of the needs into a “trend list” and sent this back out to the agency for comment and further input. This list has been published separately.

Based on this input, she developed draft IT strategies and reviewed these with key IT architects and managers. The first draft plan was reviewed with IT and agency managers on June 19, 2007. During the fall of 2007 it was reviewed by Ecology management and further edited by the Information Technology Steering Committee. At the ITSC meeting of 2/19/08, the Plan was approved.

II. FOUNDATION FOR IT PLANNING

A. Focus on Key Priorities

The [Department of Ecology 2007-2009 Strategic Plan](#) clearly sets out agency priorities for this period:

- Protect and Restore Puget Sound
- Reduce Toxic Threats
- Support Successful Water Management
- Environmental Mitigation that Works

Since the plan was written, a fifth priority, Facing the Challenge of Climate Change, was added to this list.

These agency priorities require programs to work very closely together to coordinate their work towards common objectives across programs and agencies. For example, the Governor and Legislature have invested \$238 million to improve the health of Puget Sound. This is reflected in Ecology's priority to "Protect and Restore Puget Sound". The whole effort will be coordinated by a new, very small agency. The Puget Sound Partnership will need to create a collaborative network of public and private entities. Ecology has a lot of the data and technology capability to support this effort. Smaller jurisdictional entities may not have the technology resources they need to participate fully in the Partnership, but Ecology could share technology with them to enrich the data overall.

The priorities in the 2007-2009 Ecology Strategic Plan require an enterprise approach to the agency's technology investments and related work. Programs must collaborate across organizational lines to integrate data and information in support of the multi-program/multi-agency initiatives.

State technology direction and trends also require more enterprise driven investment. The Legislature and the Governor have directed agencies to concentrate their technology efforts to:

- Promote the quality and reliability of state technology,
- Reduce the risk associated with large technology projects,
- Promote the use of common services, and,
- Innovate!

The newly-created IT funding pool, "Section 903" consultations with DIS, and the 2007 State IT workgroup are specific evidence of the new state enterprise direction and emphasis on the use of common services.

B. Future Priorities

Looking into the future, it's easy to see that agency priorities will continue to require cross-organizational collaboration. More enterprise-type strategies will be needed to connect Ecology programs to the cross-enterprise priorities likely to occur. A strategic direction is needed that will transcend biennial boundaries without needing to forecast specific technology direction.

C. Just-in-time Strategic Planning

With the increasing rate of change and the continuing convergence of technologies, Ecology must be able to make "just in time" decisions to leverage opportunities and assets in a strategic manner.

Technology tools, methods and trends change frequently, but overarching principles for managing technology have been around a long time without changing. Rather than trying to forecast the specific direction of technology, it is more preferable to have a strategic decision-making model that allows the agency to make specific technology direction decisions at the right moment. With governance and values set strategically, the agency is prepared to make these decisions at any time when agency priorities and political focus line up with a given new technology opportunity.

The IT strategies in this plan position the Department of Ecology to operate in this way. This means that this document has a longer life than just the current biennium, and the agency will use it to move nimbly to make strategic technology decisions when opportunities arise.

III. LIMITATIONS IN TECHNOLOGY AND GOVERNANCE

Clearly, Ecology has an opportunity to step into this vision by using IT more strategically to leverage the resources it already has. The challenge we face is to make these resources accessible in an integrated way. Based on a critical self-examination, Ecology finds the following strategic limitations of our current technology environment:

1. Ecology is data rich and information poor, leaving staff, executives, partners and the public frequently drowning in data that is difficult to interpret.
2. There is a lot of IT activity occurring at Ecology, but there is not enough emphasis on focusing that activity towards strategic agency priorities. This represents a sub-optimized use of expensive IT resources.
3. The IT strategic viewpoint is not present enough in day-to-day executive level deliberations. Strategic opportunities are missed and investment in IT is not used as a strategic lever to make a significant difference to the agency. This vacuum is filled by bottom-up technology decisions that may or may not be in the strategic best interests of the organization.
4. Agency data is often seen as “owned” by the program areas and not as an agency strategic resource.
5. Data is managed in organizational silos that aren’t mutually compatible leaving it difficult to combine data across program lines.
6. Agency staff don’t always know where data is, or what data is available so they use a lot of time in searching and asking others, and, may even duplicate data capture efforts.
7. Spatial location, the basis for most Ecology data, is represented in multiple ways creating another barrier to combining data to get real information.
8. Ecology data is often incompatible with data from other governmental organizations with which the agency needs to collaborate.
9. Data is too often presented in its raw form, leaving the user to interpret the meaning. Human interpretations can be inconsistent.
10. Long-term trends often are not tracked because some data never makes it off of paper and people may not even know to go look for it.
11. Many functions take a long time to complete because they are tied to paper documents, sometimes going decades back into history
12. Meetings and other activities are heavily based on paper which wastes time, space and natural resources.
13. The public’s experience with Ecology is sometimes more low-tech than they experience as a norm with other areas of state government, e.g. lack of electronic payment options. Eventually, this will lower agency credibility.
14. Document and data archiving rules are inconsistent or missing so the agency may not be meeting state auditing criteria and may lose critical data through unintended purging.

15. It is difficult and not always possible to clearly articulate the connection between Ecology expenditures and environmental results. This leaves the agency with less ability to prove its effectiveness.
16. People travel frequently for meetings without using existing technology for remote human interaction because it's not seen as a viable option. Ecology misses an opportunity to model more 'green' business practices.
17. At any given moment, IT work occurring at the program level may or may not be the best investment given an enterprise-level view of priorities. However, since this is not known, overall IT Investment is most-likely sub-optimized.
18. Users' experience with IT in remote offices is inconsistent with that at the Lacey building causing an additional overhead away from headquarters.
19. Fiscal notes, grant applications and other strategic business do not always have strategic IT input, leaving the IT staff reacting to meet a requirement they didn't know about. Sometimes the request is creating a strategic direction that is at odds with the agency's best strategic IT interests.
20. IT policy and standards are not comprehensive and are inconsistently applied. This mirrors the agency business practices, so that results are inconsistent and strategic direction is lost through program-level sub-optimization.
21. IT best practices are inconsistently applied resulting in sometimes questionable levels of quality of IT deliverables.
22. Ecology's voice in the state government IT community isn't strong enough to influence the state's direction for its best interests.
23. Current IT governance structure and processes are not seen as consistently credible. This leads to decentralized areas making decisions which go against the enterprise direction, leaving future integration needs less viable.
24. Some agency functions require multiple entries of the same data. This leaves staff frustrated at the waste of time and creates risks around data integrity. This and other inefficiencies take staff time away from more important work closer to their mission.
25. The current IT governance groups have strategic charters, but they are not being followed consistently. This means that strategic IT investment priorities are sometimes subordinated to tactical or operational needs.
26. Program IT areas sometimes hire IT staff without the participation of central IT managers/staff, leading to inconsistent quality of hires.

IV. INFORMATION TECHNOLOGY STRATEGIES

In addition to a focus on agency priorities, Ecology will take every opportunity to make progress towards consistently following/improving standards and best practices in all IT endeavors. Each project will research common tools and services to ensure that IT investments are optimized on strategic direction and leverage the investments of other entities, especially the Department of Information Services (DIS).

For ease of use, this plan sets out new IT direction for Ecology in three major areas:

- A. Long-term enterprise-level technology initiatives
- B. Strategic changes in IT governance
- C. Agency organizational changes for managing IT

However, the agency recognizes that technologies are converging (for example: voice over Internet capability merges voice and data to provide phone service via the Internet). This means voice and data network initiatives and other converging technology initiatives will overlap and combine depending on the particular situation being addressed. Work on them will be enterprise-wide and collaborative in nature, from an agency and a state-wide perspective.

A. Long-Term Enterprise-Level Technology Initiatives

To make significant progress towards supporting current and future agency priorities, three existing technology initiatives need to be accelerated and intensified. They are major efforts that will require work across multiple biennia. Each will provide valued benefits in small increments. As they mature, strategic benefits increase and become more useful enterprise-wide and beyond the agency to other agencies, other governments and to the public of the State of Washington.

1. Data Integration Initiative

The Department has come a long way to reducing the variety and incompatibility of major platforms and database types, but the hope of achieving an integrated, multi-media and cross-program view of Ecology's data is unfulfilled.

We recognize that it's how an agency collects, interprets, digests, and integrates its data that makes the difference between surviving and thriving. This takes precedence over tools which are only as good as the data they use.

The Department will re-energize an enterprise level initiative to integrate strategic data across the agency. The vision is to have an integrated view

of information available to all staff, governments, and citizens. This initiative is to build upon existing data standards to refine and extend a strategic data direction that will support the agency's need to work across program lines and to share data internally, with other agencies, and the public. "Data" in this initiative is broadly defined to include data within documents, within agency databases, within GIS data layers, within photographs and other media. The objectives of this initiative are:

- **Data Architecture**
 - Research, design, and establish a more comprehensive data architecture. This will include an access and governance model that will make program data easily accessible and usable. It will be data-centric, not technology-centric, and will advance data standardization for the agency.
 - Expand capture, storage, and access of cross-program data in addition to the data maintained within Environmental Information Management (EIM), Facility Site, and Employee Plus (EPIC) systems.
 - Expand use of agency common data, and shared identifiers (like Facility/Site Identifier)
 - Give most urgent attention to data related to agency priorities and performance measures such as "Protect and Restore Puget Sound", Reducing Toxic Threats, etc.
 - Create a data architecture strategy which leverages common enterprise-wide identifiers and builds upon the use of common identifiers within program database and reporting applications.
 - Establish an effective and simple way for agency staff, stakeholders, and the public to search and access Ecology information.
 - Increase Ecology's credibility via open access to Ecology information.

- **Geographical Information Systems (GIS)**
 - Maintain a Geographic Information architecture and data-access strategy that will allow data to be referenced to a specific spatial location and inter-related to other spatial and tabular information.
 - Offer users a consistent set of standards and tools for capturing and storing spatial locations.
 - Continue to develop location-finder services and other common utilities that offer a core library of GIS data and tools to program applications.

- Continue Ecology's leadership role in the Washington GIS community by promoting the development of standards and common data and tools.
- **Document Management**
 - Create a document management architecture and strategy that will dramatically reduce the effort required to find and handle documents.
 - Leverage any available state resources and/or services that support data integration and document management.
 - Include archival and purging strategy that meets program and audit needs and increases the safe retention of valuable original documents and irreplaceable data.
 - Include complete definition of and policy regarding "data and documents" that is broadly inclusive. Include items not usually seen as "documents", such as email, photos, etc.

The Data Integration Initiative will take several years to fully realize, so it is imperative that quality feasibility work is accomplished up front. The initial feasibility study(s) will include a strategy for incremental work that gives early priority sequencing to information that is most important to agency priorities and leverages, as models/pilots, those projects approved through the IT Pool process. Current pool projects include:

- Grants, Contracts and Loan Management System
- Well Construction and License System
- Water Rights Database Enhancement

DIS and OFM have approved these projects for IT Pool funding. Ecology will use these projects as models for leveraging common services. This will promote more learning across the agency about how to better design projects that are truly enterprise designed.

2. Connectivity and Access Initiative

The Department will embark on a series of projects to expand and improve access to its data and systems, both for internal and external uses. This includes the broadest interpretation of data to include documents, photos and other media. Internally, this is needed for people to be better able to perform their jobs, with technology as an enabler, rather than an impediment. Staff in remote places and offices will have the same level of service as those in Headquarters.

Externally, technology will be used to enlist a willing public into the overall environmental stewardship effort through technology functions that invite them in and make it easy to find information in a way that relates to the individual and the neighborhood. Most people, especially in Washington

State, want to be environmentally responsible, but often lack the information or ideas to help them do the right thing. By sharing more environmental information with them in a way that is accessible and usable, the Department will invite each person to become part of the solution.

Recently, the agency has invested in new wireless infrastructure that will increase capacity and responsiveness. Additional capabilities are becoming available, like Voice Over Internet which give more and sometimes better pricing options for connectivity. This and other recent enterprise work positions Ecology well for strategic initiatives in this area. The objectives of this work include:

- **Common Tools and Services**
 - Ensure that Ecology leverages common state technology access services and tools for the agency's best strategic interest. This includes agency-wide server consolidation as soon as possible, and consideration of state-wide server and other services for internal functions that aren't unique to Ecology or core to its mission.
 - Influence the direction of state access standards and common services by maintaining participation in state-wide forums and actively bringing innovative ideas to the table.

- **Maturing the Infrastructure**
 - Design and establish a long-term network strategy to ensure that all Ecology staff share the same experience of interacting with their technology tools regardless of their location.
 - Design a robust strategy to support staff in remote field locations to ensure connectivity, give them real-time access to vital systems and reduce multiple recording of data.
 - Continue and enrich current work on agency internet/intranet use to ensure enterprise consistency while supporting diverse audiences.
 - Evolve security to a level that is consistently prudent to the proper stewardship of agency/state technology resources. Security design must include an analysis of risk to the agency and state in terms of impact, cost, data integrity and ease of access.

- **Connecting the People**
 - Pursue and establish effective means for Ecology staff to interact remotely via technology in a way that fosters teamwork while reducing travel and transportation's impact

- on climate change and cost. Among others, collaborate with DIS on current video-conferencing services to ensure that face to face interactions are easy to obtain/use and support human connection even to the desktop. The objective is for staff to consider non-travel as their first option, not their last.
 - Optimize the mix of multi-media capabilities to support human/computer interaction.
 - Identify ways to give Ecology technology to other public sector entities to facilitate their interactions with Ecology and each other in working towards common objectives.
 - Include a workflow tool that enables existing data/documents/other media and new, in-process work to be managed effectively across multiple work functions.
- **Public Access**
 - Create and establish a long-term strategy to rethink the ways that the public interacts with Ecology and the other entities that participate in environmental improvements.
 - Significantly enhance the agency's ability to answer questions from the public in a manner that fits with their question rather than the agency's organization structure.
 - Make it "surprisingly easy" for those entities that must report to Ecology to use automated ways to do so.

The Connectivity and Access initiative is also a long-term effort that will become institutionalized in a continuous quality improvement approach that combines strategic visioning with tactical opportunities. This is further described under the IT Governance part of this Plan.

3. Efficiencies Initiative

Ecology recognizes that it has many opportunities to reclaim valuable staff time and physical space by creating more streamlined business processes. However, selecting which projects to take on has not always been seen as strategic decision-making. Using new decision-making patterns shown in the following section, Ecology will create strategic investment in those efforts that provide the most value in these ways:

- Capture data (regardless of media) at its source to ensure single entry and accuracy of input.
- Create an automated means of entry from external entities that negates the need for physical handling of media. This saves time and handling by staff, but more importantly, makes the need to report to the agency easier for those complying. They will more likely comply in a timely and accurate way.

- Use electronic authorizations rather than physical signatures to save time and handling of decision-making.
- Use strong editing and prompting techniques to increase data quality and ease of use.
- Handle documents and other media electronically to increase information access and security.
- Simplify efforts to fulfill public disclosure requests to reduce response time and reclaim staff time and effort.
- Reduce paper dependence to lower handling time, copier expense, storage costs, and carbon footprint.
- Reduce multiple copies of electronic files to reclaim valuable server capacity.
- Reduce the need for travel by making other alternatives attractive and easy to obtain.
- Reduce administrative time while increasing time spent on mission objectives and agency priorities.
- Save critical response time during emergency conditions by having IT resources staged and available for immediate access anywhere.
- Collaborate with other entities to optimize investments and create broader use of good standards across the public sector.
- Continue to evolve the common “look and feel” of electronic systems across the agency to foster easy, intuitive operation and support knowledge transfer.
- Extend the use of automated monitoring and transmission tools to more routine field observations/alerts not requiring human experience.
- Allow all employees to have technology access wherever they are whenever they need it to reclaim time, energy and attention away from the routine, and invest that back into mission-related work.
- Examine current IT services against the common service offerings by DIS for potential benefit from using purchased services rather than building or maintaining them in-house.
- Ensure that all IT staff, whether central or decentralized are using the agency’s Software Development Center to create applications with optimum developer efficiency. These include best practice principles for reusability of software components, repeatability of results and predictability of accuracy. The Center has controls in place to ensure quality, enhance training, and mature the use of common tools.

B. Strategic Changes in IT Governance

1. Outsource Non-Strategic IT Functions

Ecology will continually evaluate IT services whether centralized or decentralized. This evaluation will examine functions for the best strategic positioning. Just because a function can be provided in-house doesn't mean it should be. The agency must evaluate whether significant value is added by providing a function in-house and must distinguish between ownership and control. Outsourced functions can be very effective with the selection of an appropriate provider and a tight service level agreement or contract.

As DIS matures in its ability to provide robust IT services at volume savings, Ecology will collaborate with that agency to make the best servicing decisions. Ecology will also participate in any advisory opportunities to influence DIS direction.

2. Align Tactical/Operational Decisions with Strategic Principles

a. Decision-making Groups

Ecology will strengthen the charters and processes for its IT governance bodies: IT Steering Committee (ITSC), Business and IT Advisory Council (BITAC), and the BITAC technical work groups to support this plan. They will provide more accountability for IT results and give more direction to the way IT services are delivered in all parts of the agency.

The ITSC will serve as the owner of this plan. It will ensure that all budget recommendations, project initiations, and other IT decisions are well-aligned with its vision, whether occurring in central IT or program area IT. It will focus on achieving the strategic objectives in this plan. The ITSC will also set all high level policy and standards for IT at Ecology in alignment with Washington State direction.

The Strategic Technology Direction function within Administrative Services (see section IV.C.1. below), will drive the agenda for the ITSC. In order to emphasize the enterprise business importance of its decisions, the ITSC will be chaired and led by the Director of Administrative Services. The Director of Ecology will appoint

another member of the agency executive team to be the champion of the enterprise view and represent his point of view on the ITSC.

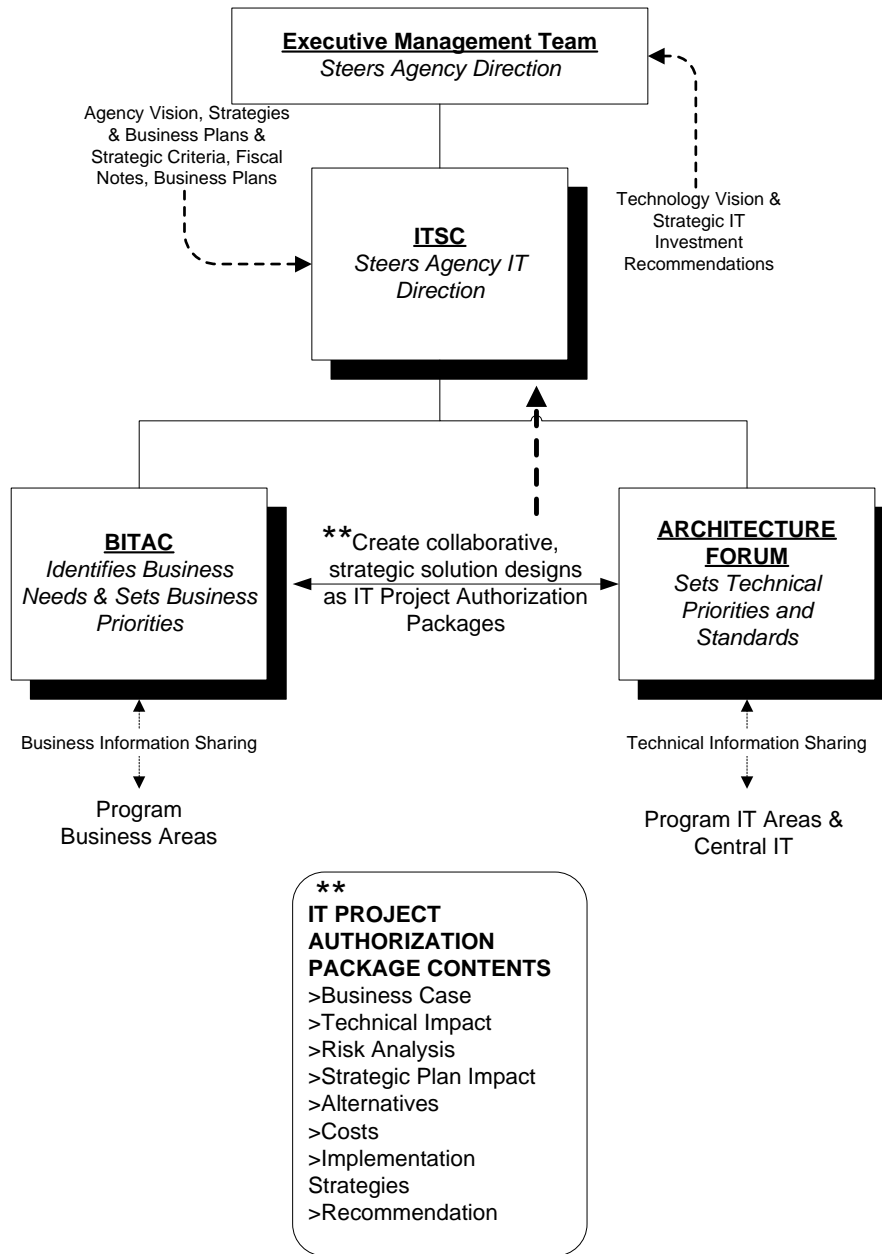
The BITAC will convert to an all-business representation format and focus on identifying and prioritizing business needs for technology.

A new group under the ITSC, called the Architecture Forum will increase the focus on optimizing Ecology's IT expenditures for strategic value. This means that all new IT initiatives/projects in Ecology must receive strategic architecture attention and authority, regardless of their origin at program or central level. The strategic architects will have design oversight of all systems and direct developers in designing enterprise affecting elements of their systems that affect the enterprise. Decentralized agency technologists will meet with agency technology architects in a separate venue (the Architecture Forum) to share information and to receive technical architectural and standards direction.

The BITAC and Architecture Forum will collaborate to produce IT Project Authorization Packages that are well formulated in business and IT terms. (See format in the Appendix.) They will look for opportunities in both business and technology that create synergy and innovation for moving the agency forward and meeting the objectives of the IT and business plans. These packages will go to the ITSC for possible approval and escalation into the agency budget process.

The following chart shows the relationships between these three committees and how actions flow between them. For more information see the set of charters that is outside of this plan.

IT Governance Structure



b. Architectural Oversight

In order to achieve enterprise technology objectives, it is necessary to move some technology choices up from the program areas to the enterprise levels.

An agency architectural review will be required before any new system development or major system enhancement project is initiated to ensure alignment with enterprise vision, models, and standards. Some projects may be escalated to the ITSC to ensure that even though the project is unique to a given program, it is consistent and compatible with the agency's IT strategic direction.

Additionally, the agency will pursue a major goal to have all software developers create all applications in the same way for common functions. As they do, they will grow the agency inventory of reusable code and utilities, increase the reliability of system components and decrease the time for testing. The agency standard development framework will be used to support enterprise standardization and more robust infrastructures.

c. Collaborative Strategies

Work on strategic technology initiatives will be accomplished by mixed groups of business and IT staff from central IT and program areas, with contractors as needed. This will help with knowledge transfer up, down and across the organization.

There will be more connection between the groups to escalate potentially strategic issues and keep information and ideas freely flowing. All governance groups will use the standard format to complete necessary pre-decision staff work. See Appendix. The groups' meetings will focus on decision-making with staff work occurring offline. All projects fitting strategic criteria must have signoffs at concept and design points as required by the ITSC.

The ITSC's current set of project prioritization criteria are:

- Leverage existing project investments
- Resource match from needed AS and Program staff (timing, staff availability, skills)
- Risks (extent of business process change, new technology, visibility, etc.)
- Project size and complexity
- High degree of alignment with agency 07/09 IT strategic plan, agency business plan, mission and goals.
- Cross-program benefit (including ties to the Ecology-EPA Performance Partnership Agreement)
- Innovation / New technology
- Public access to information

The ITSC will upgrade its standard criteria for making technology decisions to include more of the following:

Does this project/initiative/policy.....

- Align with state standards and policy?
- Pass the test of something we should do, versus can do?
- Can it and should it be outsourced?
- Support common sharing and re-use of technology resources over unique one-off usage?
- Increase agency credibility in the eyes of the public?
- Help the agency model green business practices? (decreased travel or use of paper)
- Help simplify processes that release staff time to be redirected to agency priorities?
- Share risk with a contractor, but not relinquish ownership?

3. Focus on strategic infrastructure.

Ecology will create a focus on the continuous improvement of strategic infrastructure as a way to enable technology initiatives. The agency will collaborate with other agencies and jurisdictions to leverage technology and data resources jointly. It will actively seek opportunities to use common services in line with new state direction where it makes good business sense to do so.

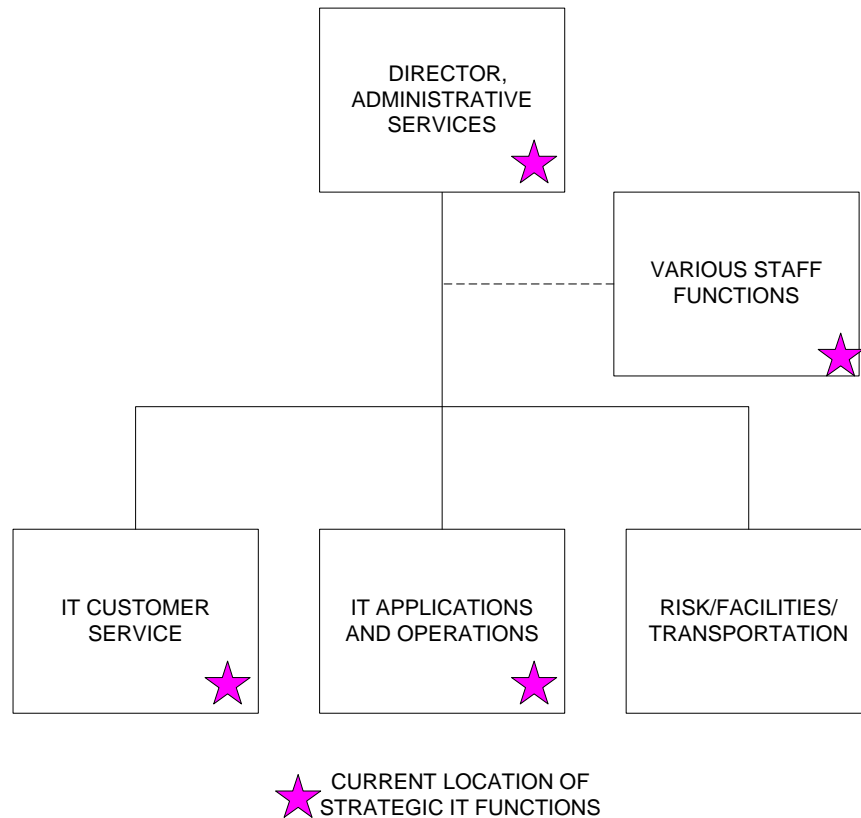
As an initial step, all server administration within the agency will be migrated to a single enterprise administration function. This will free up program resources for business-focused application development. This consolidation also will ease the eventual migration to state-level server administration. This enterprise-level server administration also will ensure that all agency software complies with agency standards and best practices.

C. Agency Organizational Changes for Managing IT

1. Elevate Importance of Strategic IT Functions

At Ecology, strategic IT functions are performed in combination with more tactical and operational functions. To elevate the importance of these strategic functions, the agency will re-align these functions to be dedicated to the strategic level of IT work. The current structure, in simplified format below, shows the distribution of strategic IT functions throughout Administrative Services. Most staff with strategic functions also have tactical and/or operational

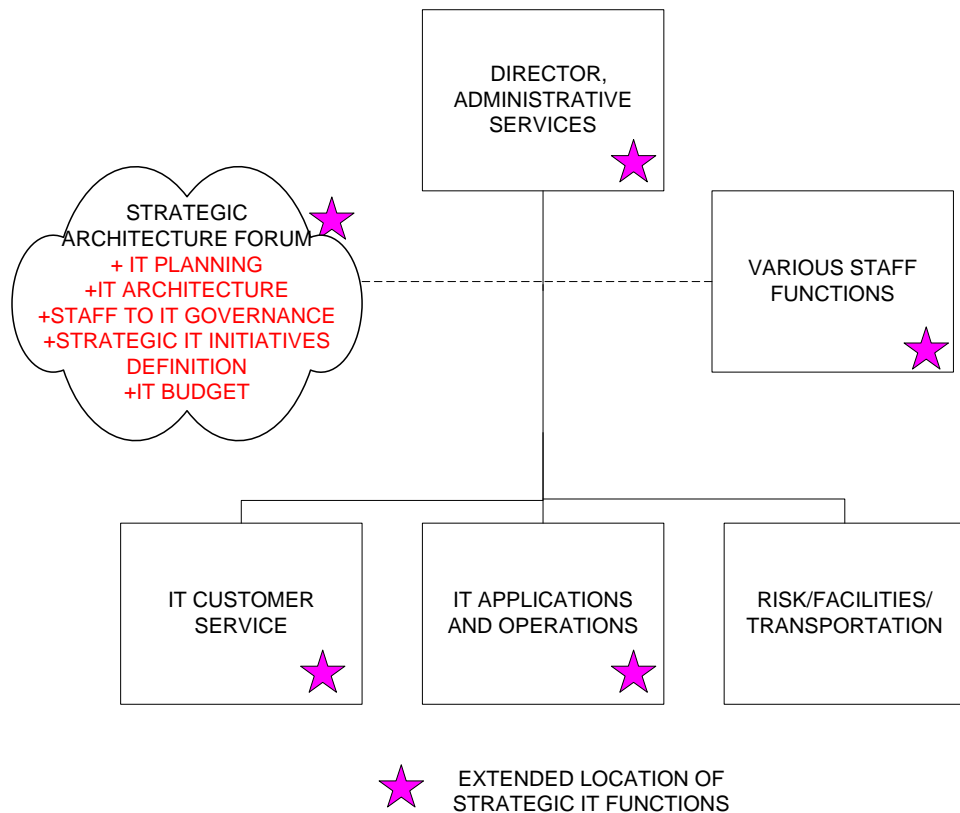
responsibilities. This helps architects keep abreast of agency needs in a real-time way.



To maintain this link between the strategic and tactical/operational while creating more strategic focus, the agency will implement a matrix organization model to put all IT strategic direction in the hands of those that need to give it because of their expertise or knowledge.

While operating in their existing positions and organizational units, the architects and other key players will be “matrixed” as the Strategic Architecture Forum to provide strong architectural oversight to the entire enterprise. The Administrative Services Director will appoint a lead role to this group that is independent of organizational structure. This person will administer and drive the process for moving ideas and decision-making packages from concept to project.

This gives rise to a matrix model that looks something like this:



The Strategic Architecture Forum (SAF) will own strategic architectures, plans, policies and high level standards for the use of technology at Ecology. It will be responsible to

- Monitor and evaluate technical trends.
- Chair and set agendas for IT governance groups.
- Develop strategic technology proposals.
- Initiate and manage strategic projects.
- Recommend the agency-wide technology budget.

Overall, this function will keep strategic technology needs in focus and aligned with agency priorities.

Staff assigned to the SAF will actively participate on state-level groups to influence their direction. They will also form close relationships with the Special Assistants to the Director who are the champions of the strategic agency priorities, to ensure that technology is used to its fullest and best effect to support them. When needed, SAF members will support agency executives in understanding technology issues and provide them with background and impact analyses for IT issues arising at the state level.

The Administrative Services Director will have sign off authority on all IT-related grant applications, fiscal notes, decision packages, technology pool requests and other strategic submissions to ensure that technology impacts are in line with agency direction and to add value to the business need to be fulfilled.

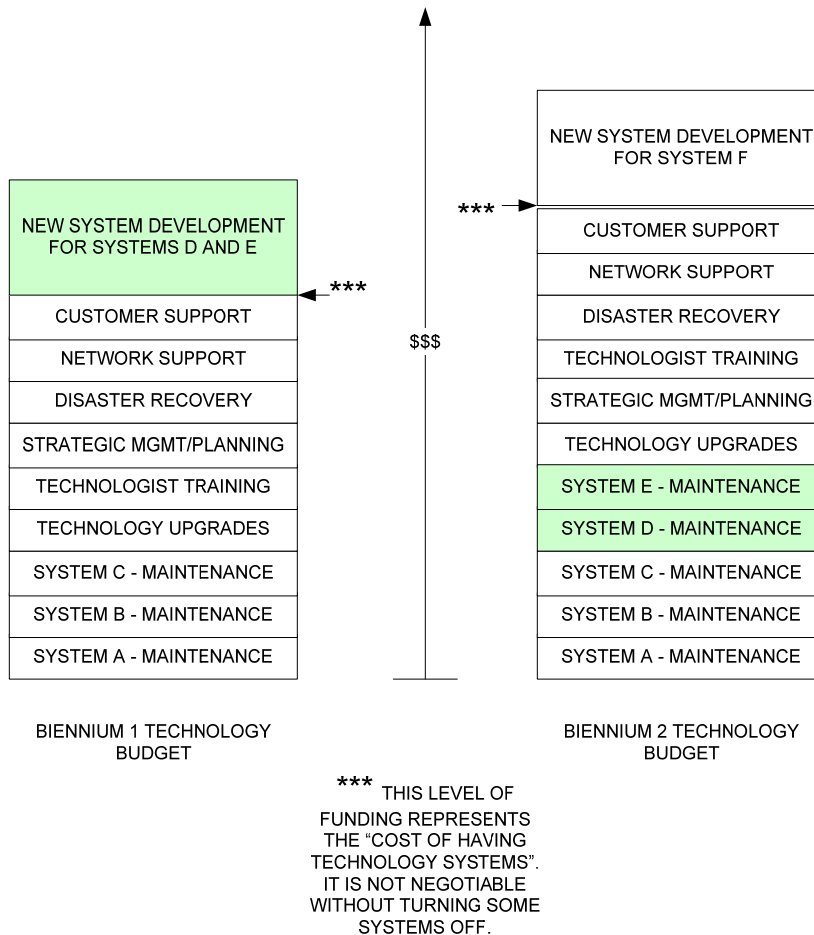
The SAF will frequently convene the Architecture Work Group to accomplish the following:

- Review and provide design oversight for all program technology projects.
- Continually transfer knowledge about state and agency trends to program IT developers.
- Research feasibility of innovative ideas proposed by program level IT staff.
- Direct program level IT staff to additional help and support from central IT or other resources.
- Promote though understanding and coaching the business imperatives inherent in enterprise strategies.
- Identify opportunities to leverage program initiatives to pilot and/or evolve the enterprise architecture and its components.

2. Re-align IT Investment and Budget

IT investment needs to be more of an agency executive decision. Technology is a strategic investment the same as a building or other long-term asset. Planning the technology budget therefore requires sensitivity to the strategic versus operational picture. Building a building is a strategic investment; keeping it clean is an operational expense. Ecology will examine its overall budget process to see where improvements can be made in maximizing strategic technology investments and in balancing decentralized program tactical needs with the enterprise strategic needs.

Budgeting principles will be expanded to recognize the growing expense of technology when new systems and functions are added, as indicated in this diagram.



The baseline budget for technology expands in subsequent years to cover the cost of maintaining newly developed systems or capabilities. Some functions are the cost of doing business regardless of the amount of technology supported.

During every budget cycle, the Department will look to the IT Strategic Plan to make the decisions about which initiatives to fund in the upcoming biennium. At this point, critical balancing between strategic IT funds and program IT funds will be made at the agency level, not only at the program level. The ITSC will recommend IT budget levels for the entire agency to the executive team.

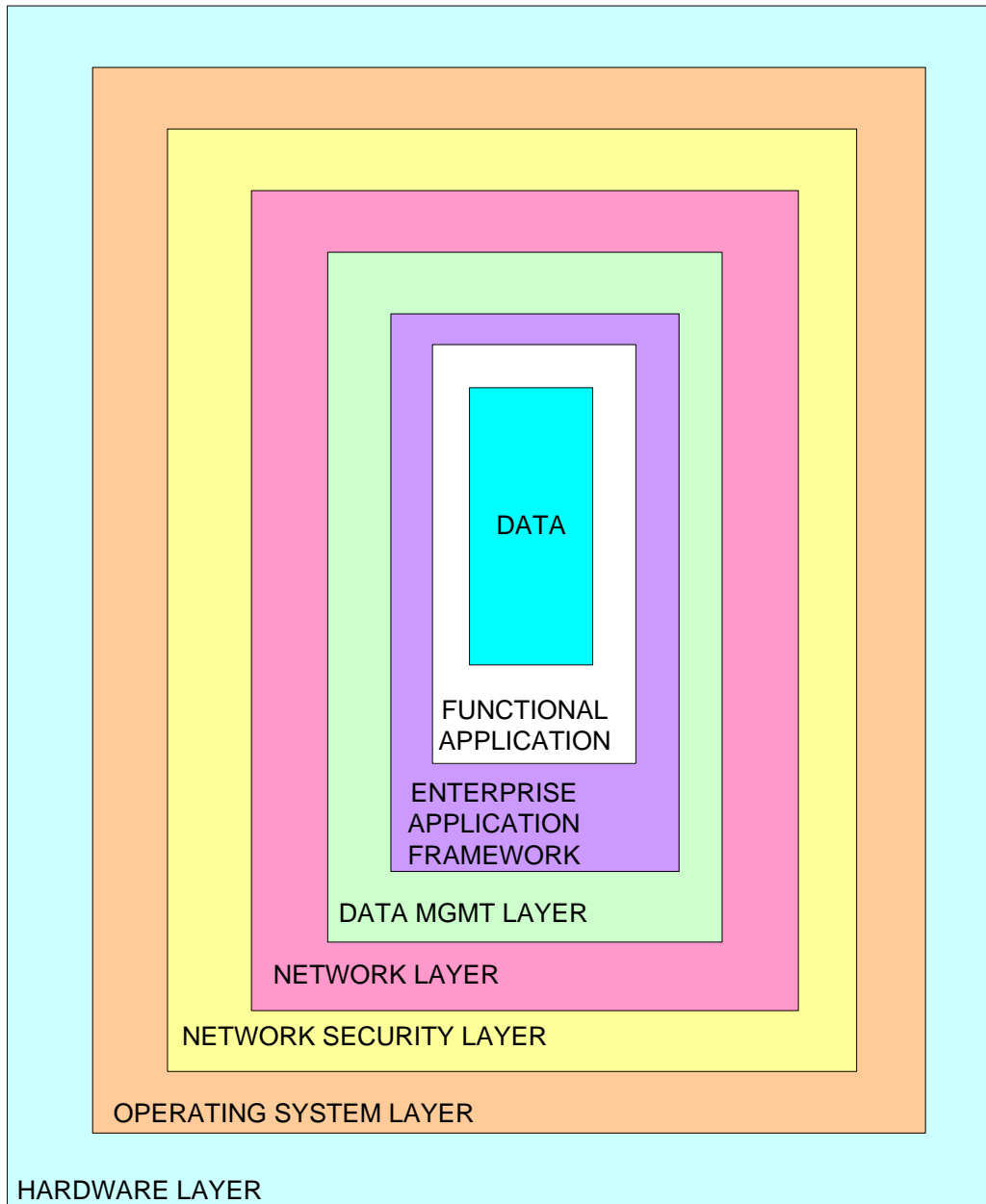
The only way to make the total budget smaller is to turn off some of the applications, and/or to perform IT work more efficiently. To this end the agency should pursue IT efficiencies and continually question the value of all of its applications.

Overall, Ecology will examine IT budget expenditures from a strategic investment perspective when comparing overall budget categories so that strategic investment is not seen on an equal footing with operational expense. This will require central IT and the programs to distinguish between operational expenses and strategic investments in the budget process.

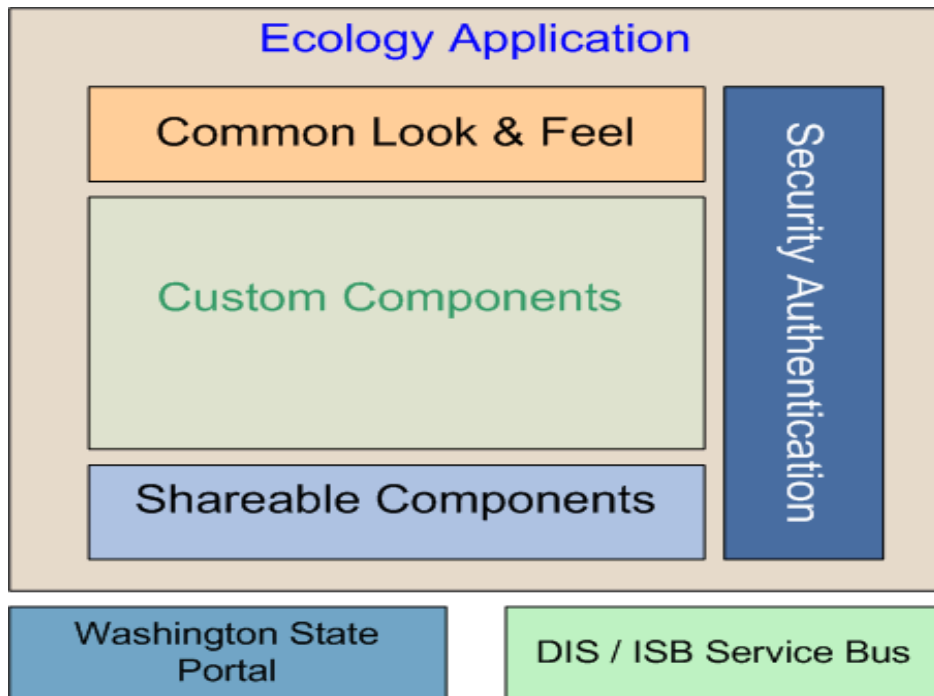
3. Central Control of Strategic IT Decisions

As a major new business theme, Ecology is creating more enterprise level control over some IT decisions in order to ensure that all agency IT investments support strategic direction. Program areas are stepping up to participate in a new model that shifts their control over some IT decisions to the enterprise level Strategic Architecture Forum.

While the SAF will be more frequently involved with program IT areas, through architectural groups and signoffs, the agency is still committed to having a combined central/decentralized model for supporting IT. The programs know their data and functions best and their IT staff are close to them to ensure functional systems meet their needs. However, beyond these, the programs may affect enterprise level resources and need to have central agreement to proceed. The simplistic model below shows the many layers of technology that are involved in delivering a given automated function to an end-user. The programs have single responsibility and authority over the white square, but the SAF has responsibility and authority over all the others.



To standardize software applications, Ecology uses an Enterprise Application Framework, based on state and agency level standards. Again, it illustrates the limited area of customization for unique needs. Everything else is tested and reusable. This graphic shows the framework's components.



4. Manage Technology as a Strategic Asset

In addition to elevating strategic IT functions, agency executives also need to understand more about their role in technology investment decision-making. This is a business management skill, not a technology skill, but many executives do not understand how to manage technology to the same degree that they understand how to manage their budget and staff. To this end, Ecology will arrange for learning events for its executives and next level of agency management. This will improve collaboration and support planning and decision-making around IT investments and plans. Executives and managers will increase their ability to:

- Understand how to view technology risks
- Support enterprise thinking and investment
- Understand the components of technology cost
- Appreciate and understand reusability value
- Manage and evolve a high quality sustainable technology inventory
- Know the right questions to ask of their technologists
- Make technology vision successor-proof
- Support the shifts in IT control needed to support enterprise technology direction
- Focus on 20% of the effort that will yield 80% of the results
- Ensure proper stewardship of state and agency IT resources, including IT staff

V. CONCLUSION

Department of Ecology's management team has the challenge of moving into a future where the rate of change and the complexity of change increase by breath-taking leaps. Technology will frequently serve as a strategic tool to help in the effort to effect positive change in the environment of the State of Washington.

By adopting a "just-in-time" strategic planning approach, the agency is flexibly positioned to make the best technology decisions at the best time, for the best reasons.

Technology convergence demands that architects plan together to jointly own enterprise level results and that they have design authority over all agency technology designs. The agency will invest in making that a new cultural dynamic.

Enterprise technology considerations will take precedence over pressures to "just do it now". The agency executive team will balance short-term needs and long-term needs so that the agency is always moving in its strategic direction. Ecology will take prudent risk to innovate to solve problems and make important progress towards agency priorities.

By understanding that we are data rich and information poor, the agency will focus on data integration and connectivity so that everyone has the right information when and where they need it.

The agency's many previous IT successes were due mainly to the foresight and energy of a few key people, and not consistently repeatable. With a new strategic governance focus, Ecology will create a more sustainable IT governance and investment culture.

Appendix – IT Project Authorization Package Format
IT Project Authorization Package

Package Title and Log Number:	Requested by:	Date:
<i>A short name everyone will understand.</i>	<i>Person or entity making the initial request..</i>	

Decision Background, Impact, Context:
<i>Why is this decision needed? What is the problem statement? What is going on in the business context that contributes to this need? What will happen if we don't make this decision? What mandates apply?</i>

Alignment with Key Business Strategies and Vision:
<i>How does this issue relate to business plans, agency priorities, and other business drivers?</i>

IT Strategic Plan Impact:
<i>How does this issue relate to strategic initiatives in the IT Strategic Plan? How does it create new, innovative direction or exploit an external initiative to agency benefit?</i>

Research Approach, Analyst and Date:
<i>Who did the analysis and when? What did the analyst do to research for this decision?</i>

Stakeholders Involved:
<i>Who did the analyst talk to as part of input gathering? What were their stakes in the outcome?</i>

Research Discussion:
<i>What the analyst has learned about the subject. What are the alternative resolution possibilities and their pros and cons? How do they compare in terms of business impact, cost, funding potential, risk, etc? How well does this decision align with our strategic IT direction? How is it related to any other authorization packages in the pipeline?</i>

Recommended Disposition:
<i>What does the analyst recommend as the decision and why?</i>

Decision-maker/Date:	Decision:	Next steps:
BITAC & Architecture Forum	<i>Resolution selected, with potential constraints and recommendation for escalation if any.</i>	
ITSC	<i>Return for more work or approve and integrate into budget cycle.</i>	

LEGEND

PINK: Beginning point, pre-scoping.	BLUE: Material added with the scoping work.	YELLOW: Decision-making steps.
--	--	---------------------------------------