GOLDRATT consulting

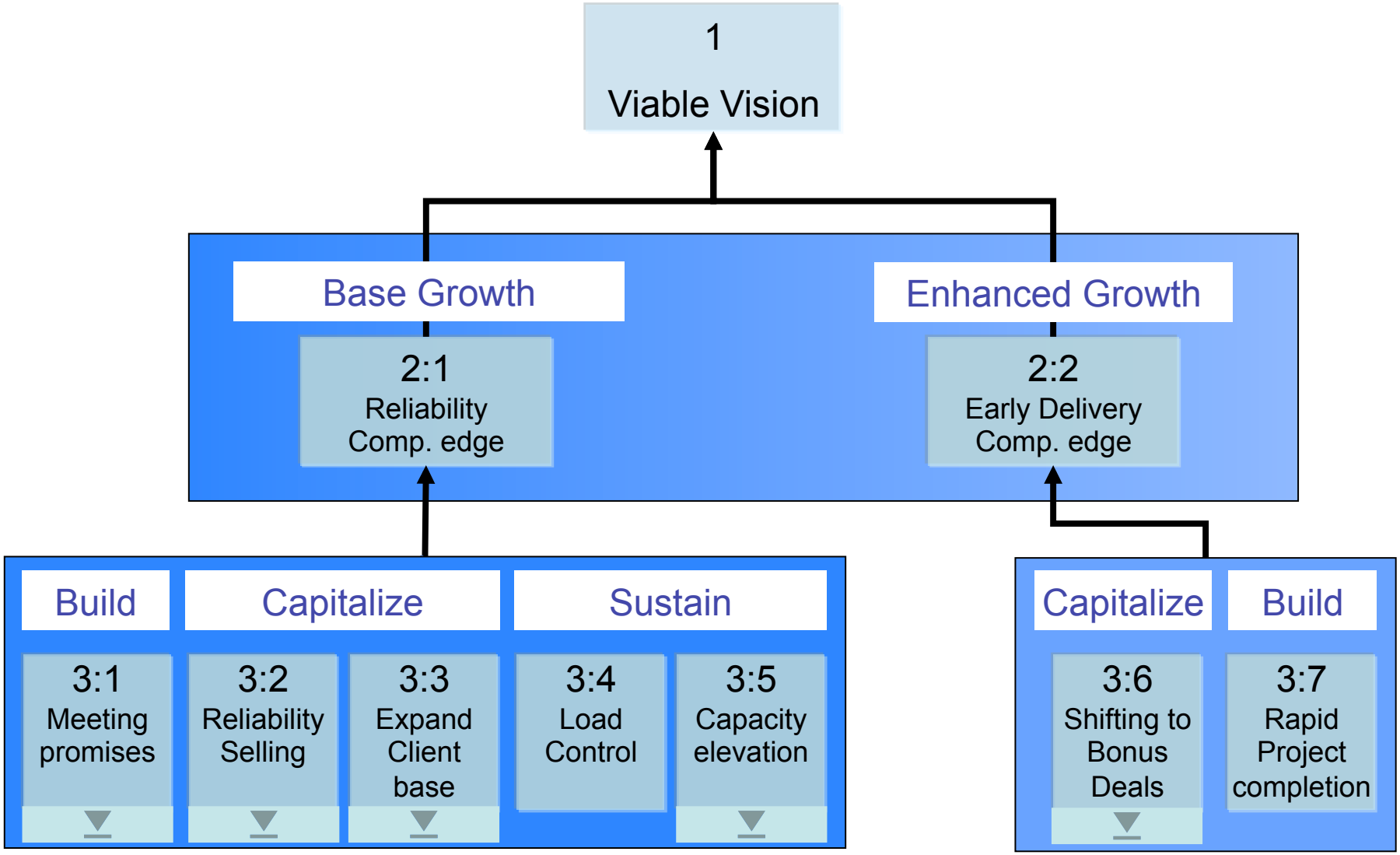
The Strategy & Tactic tree

Projects

Viable Vision implementations

James R. Holt, Ph. D., PE
jholt@wsu.edu

PROJECTS S&T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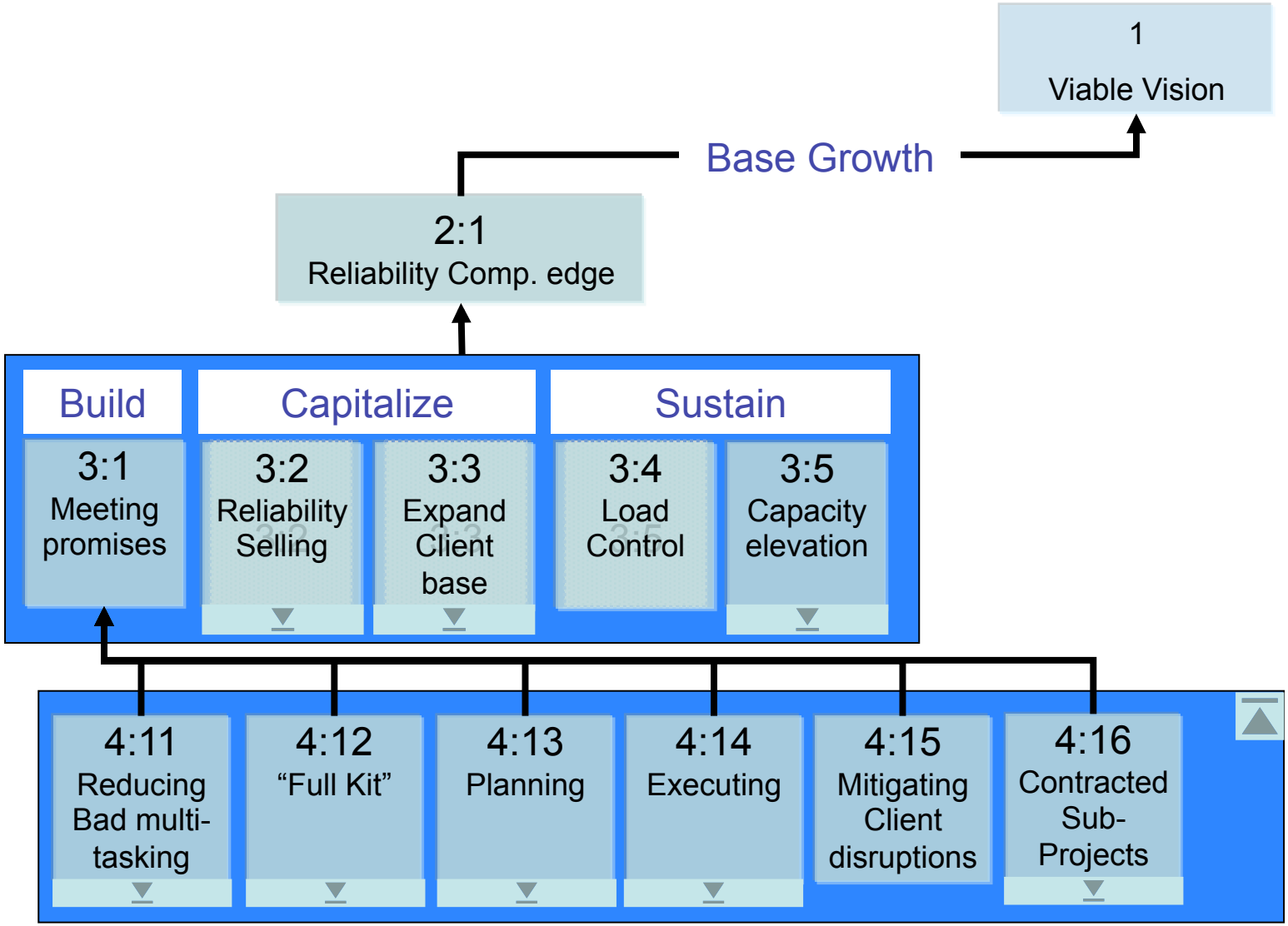
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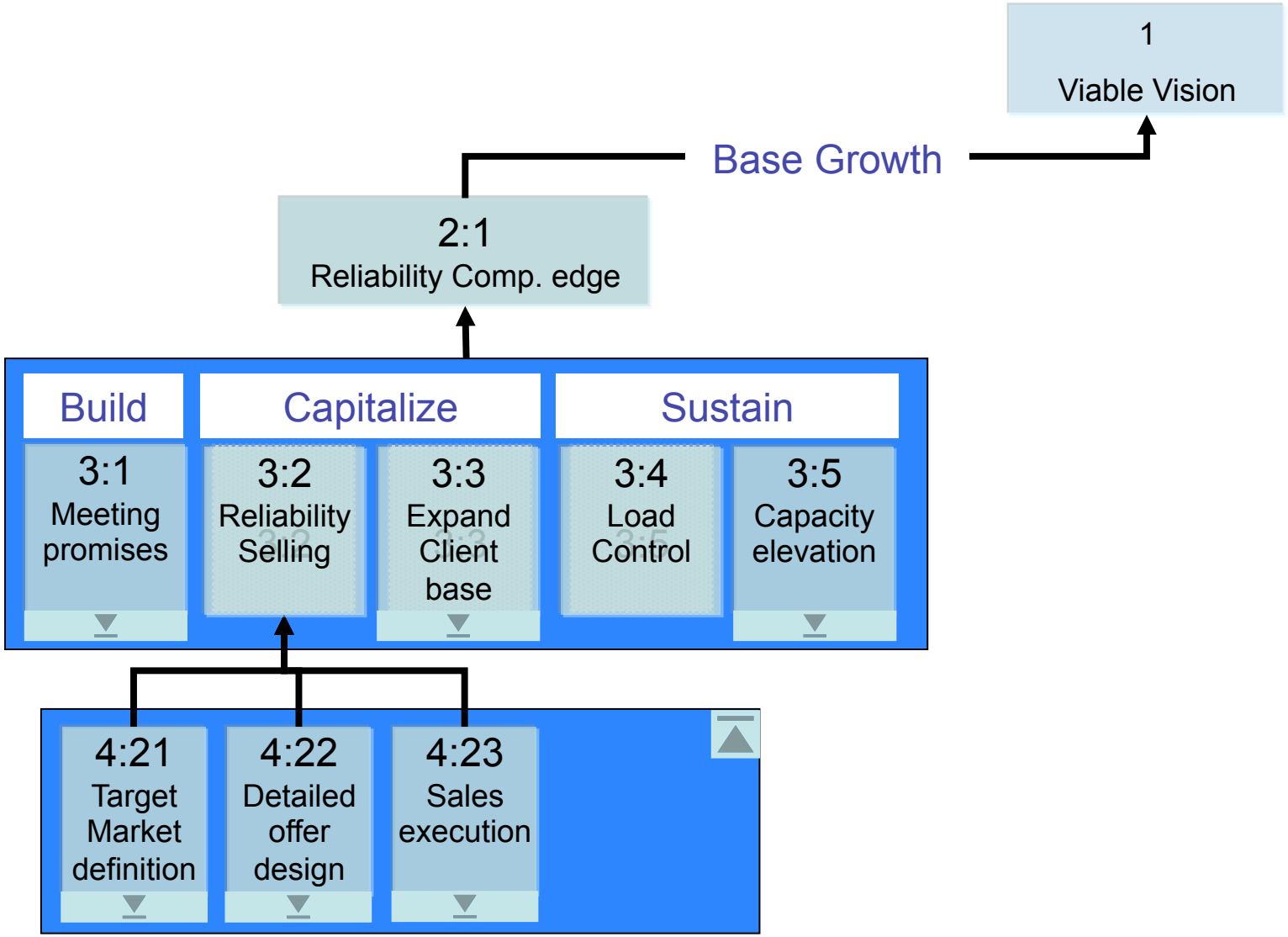
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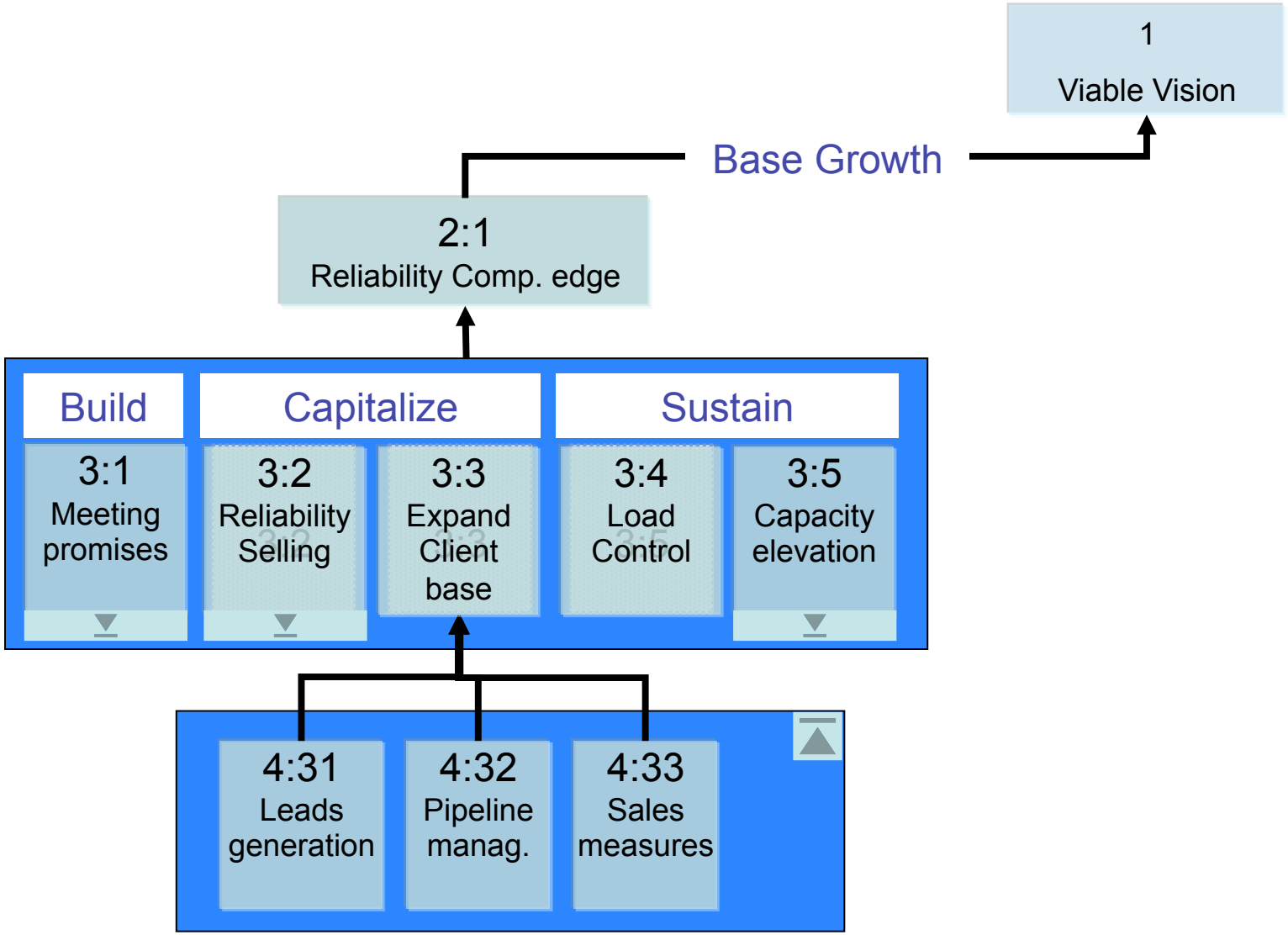
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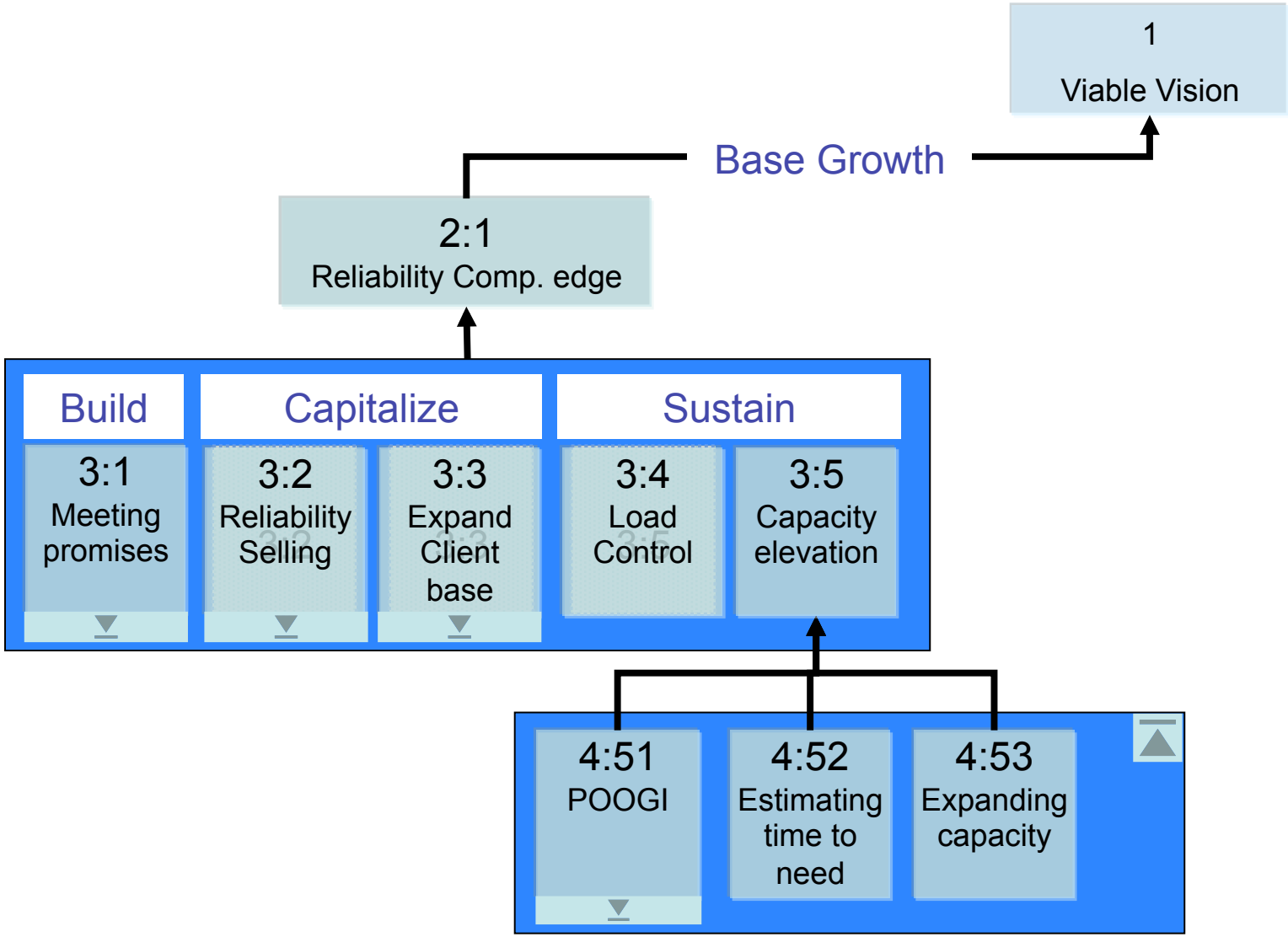
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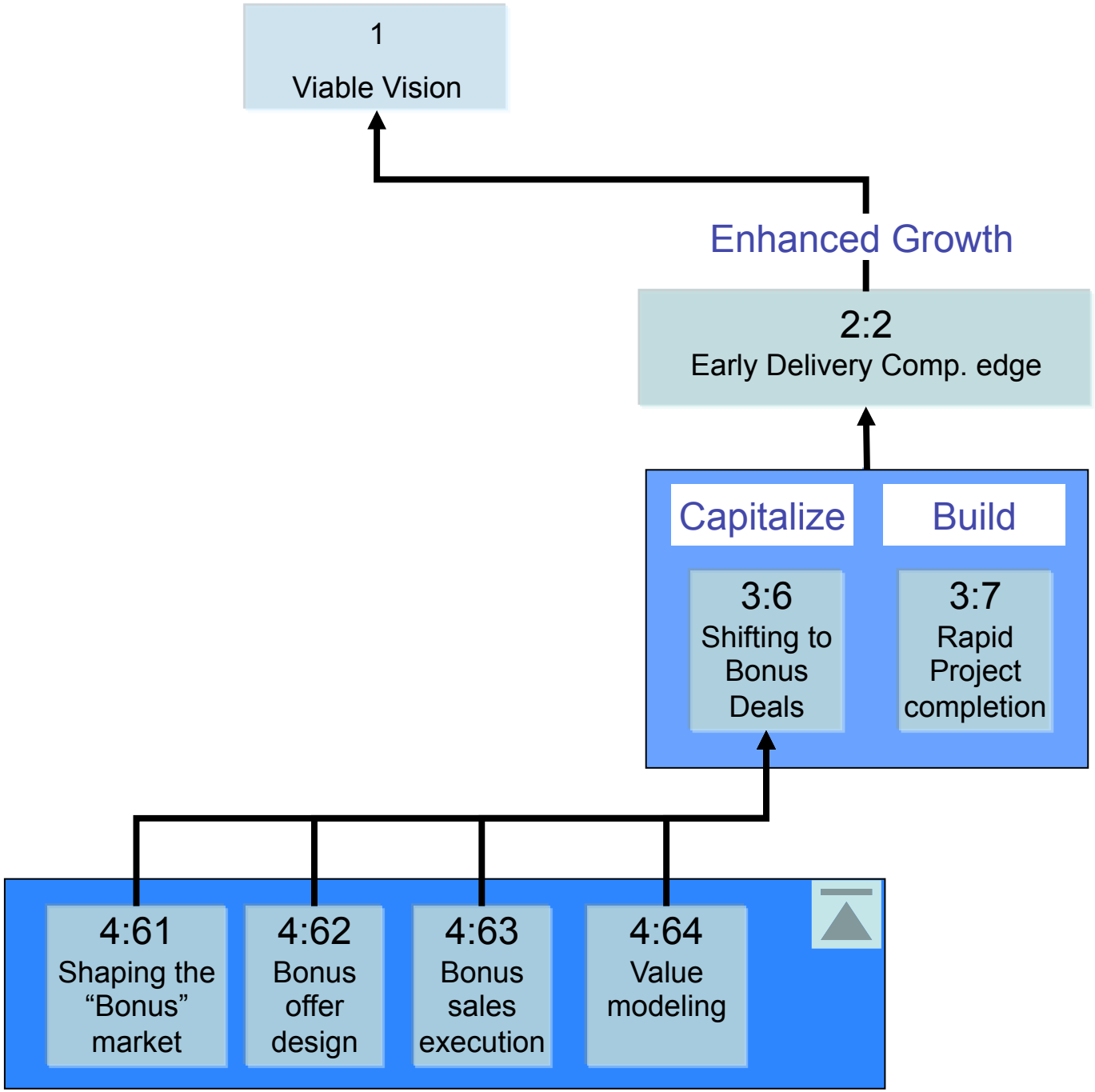
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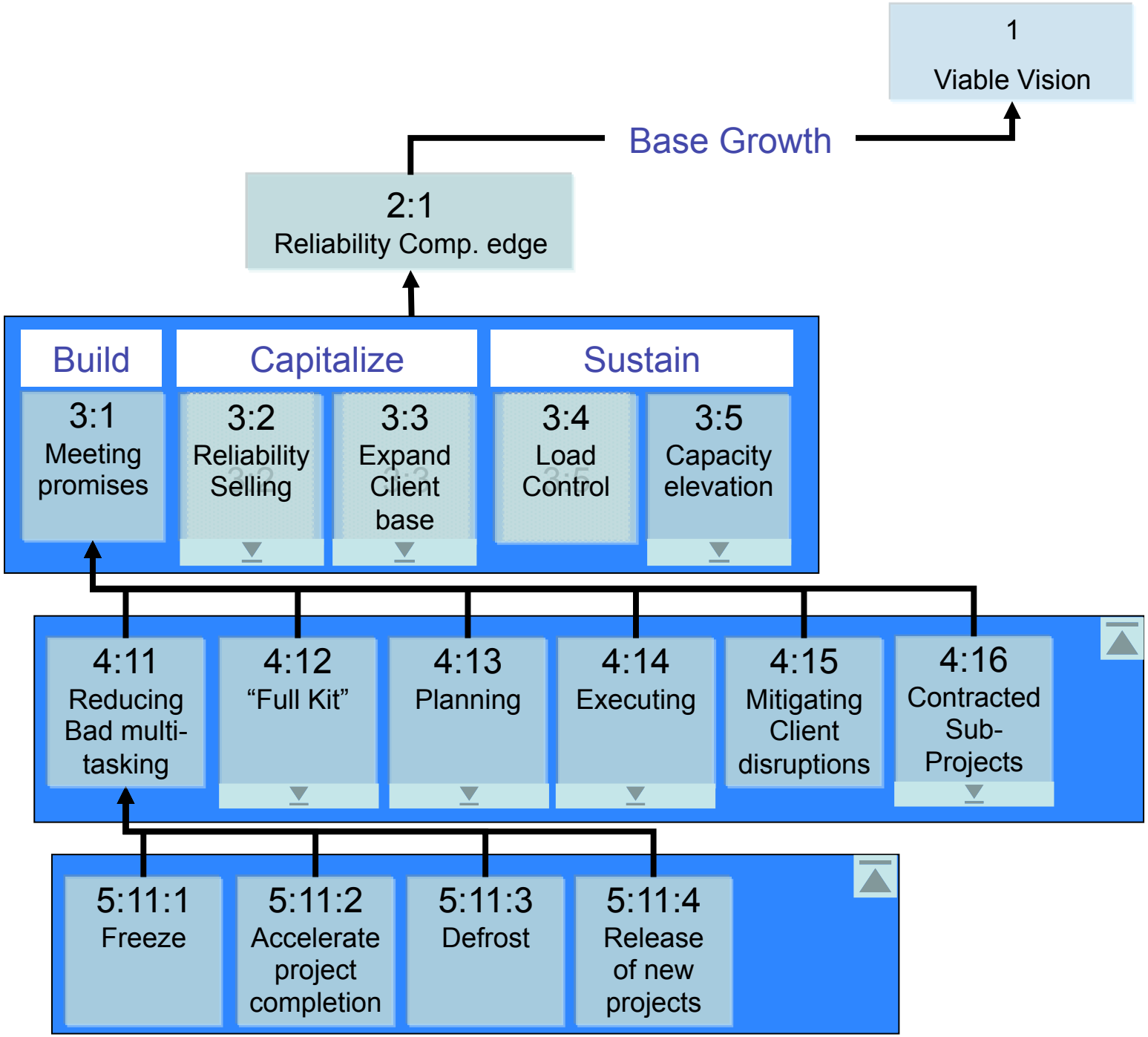
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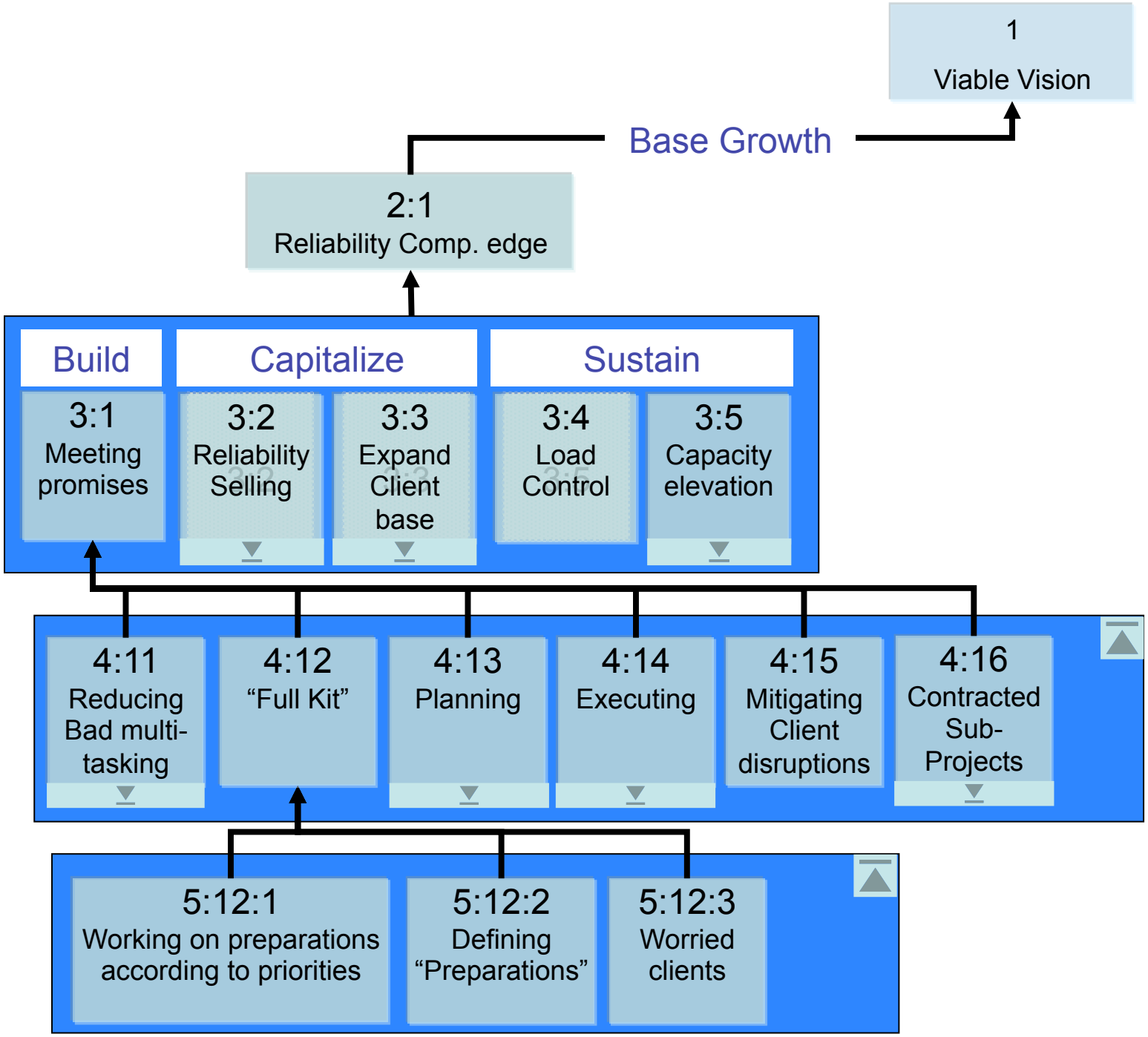
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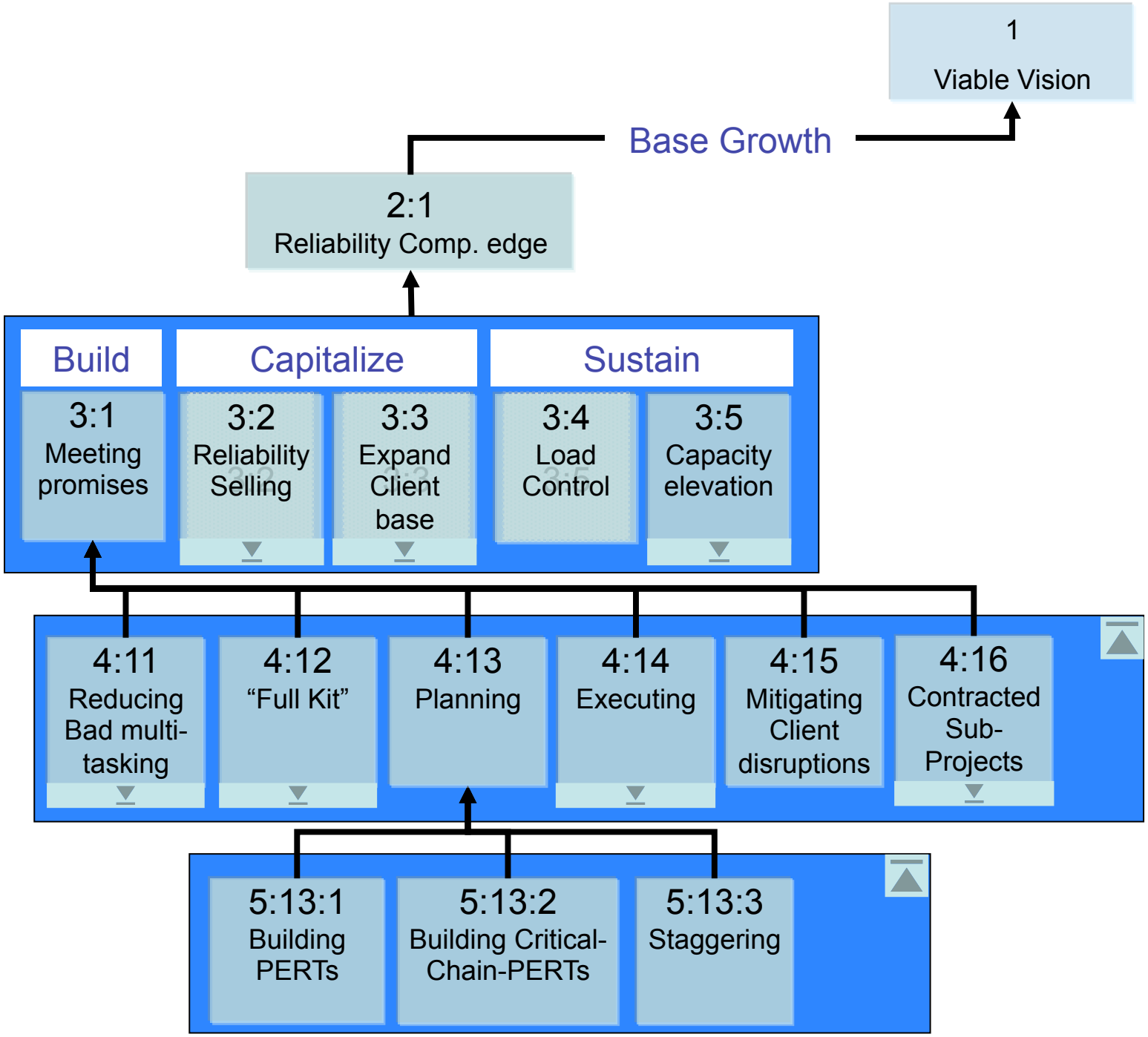
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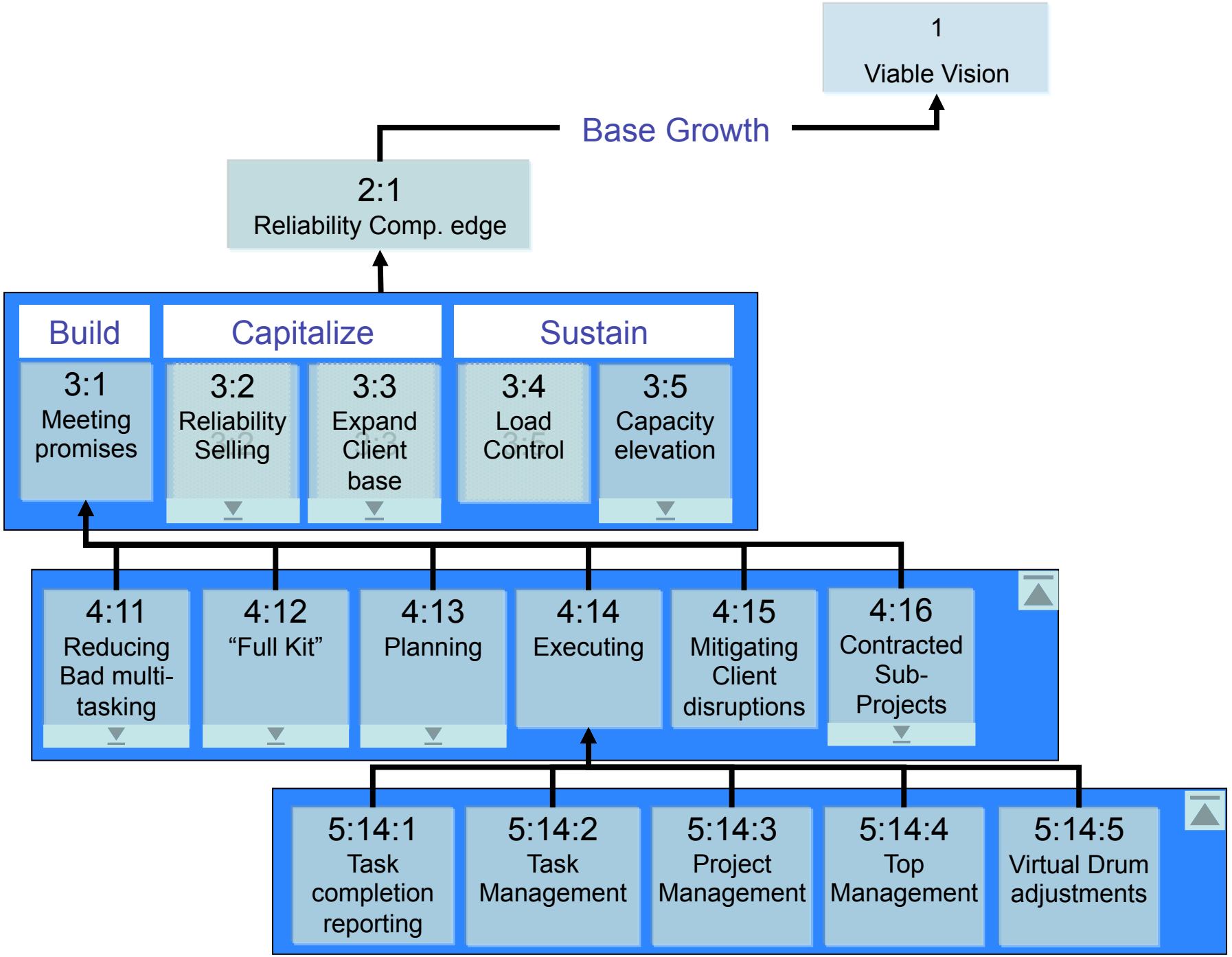
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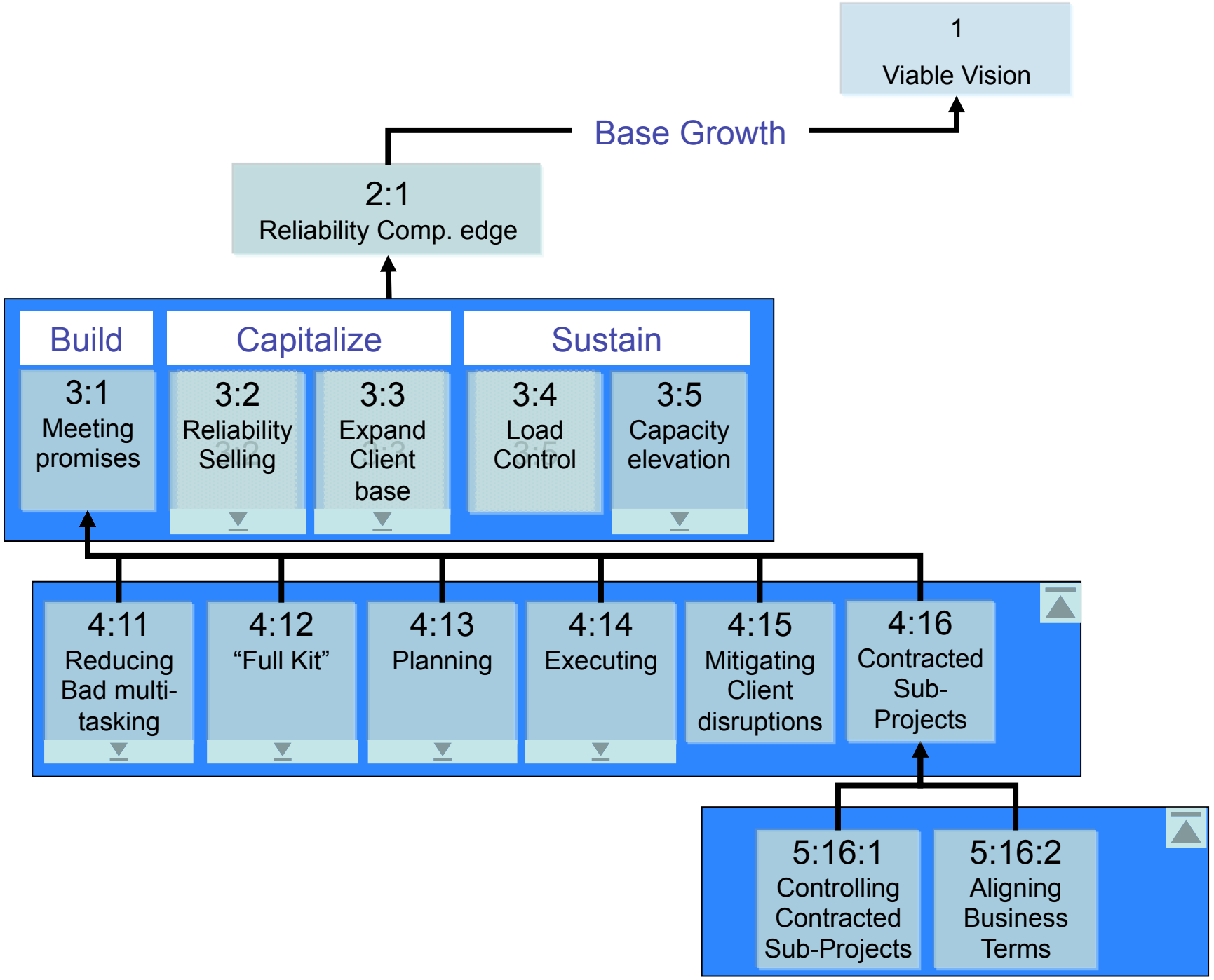
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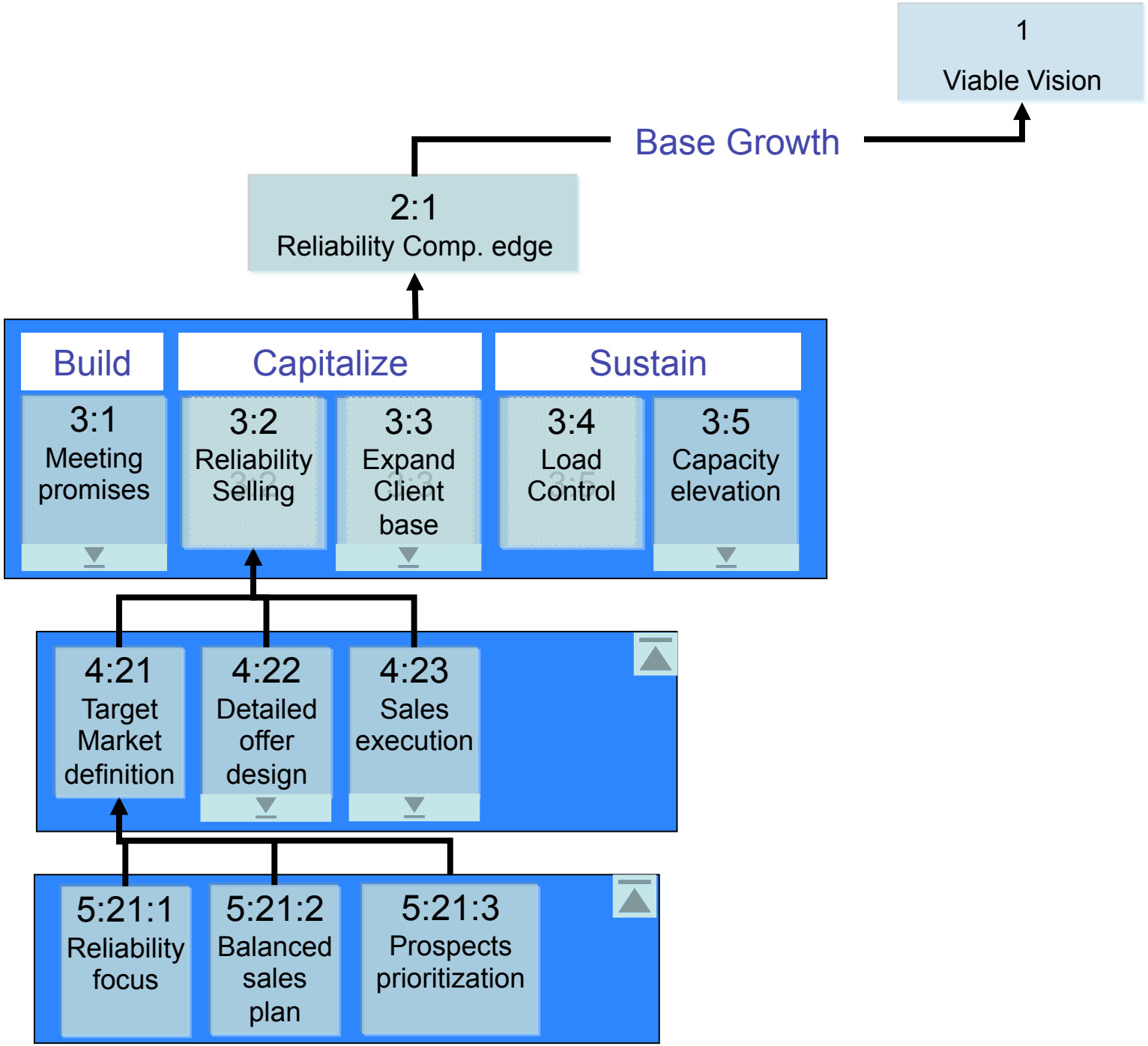
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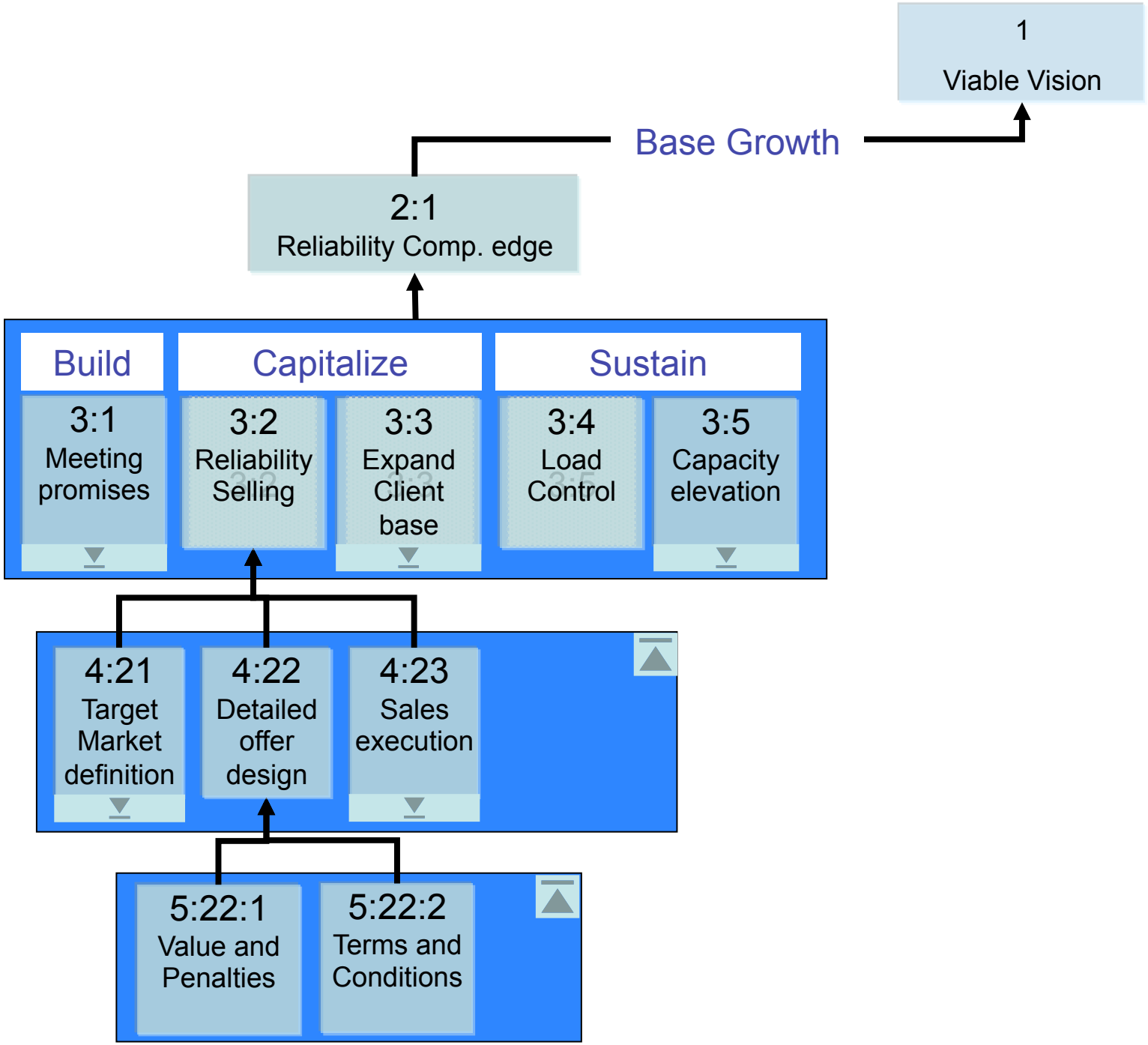
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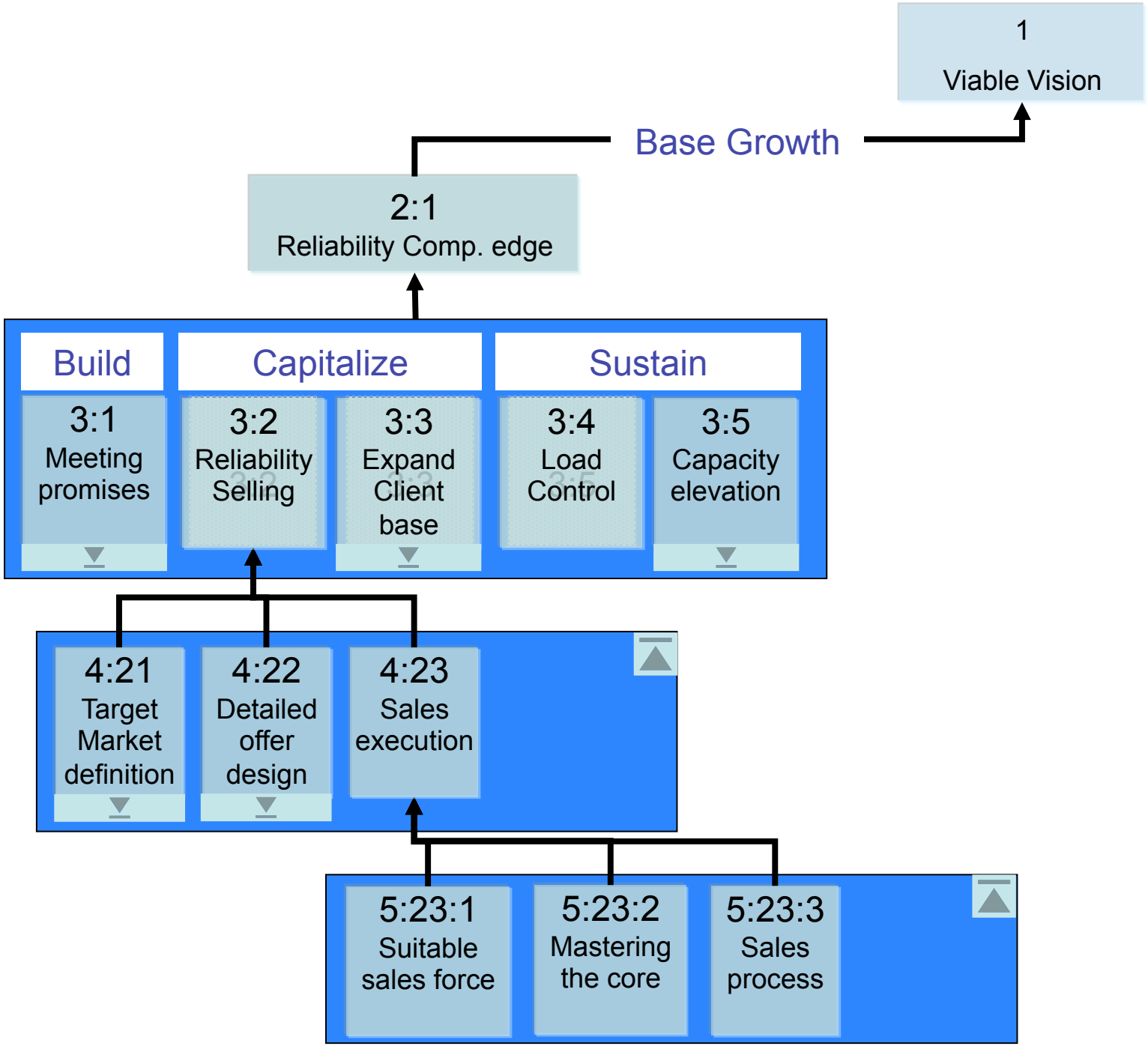
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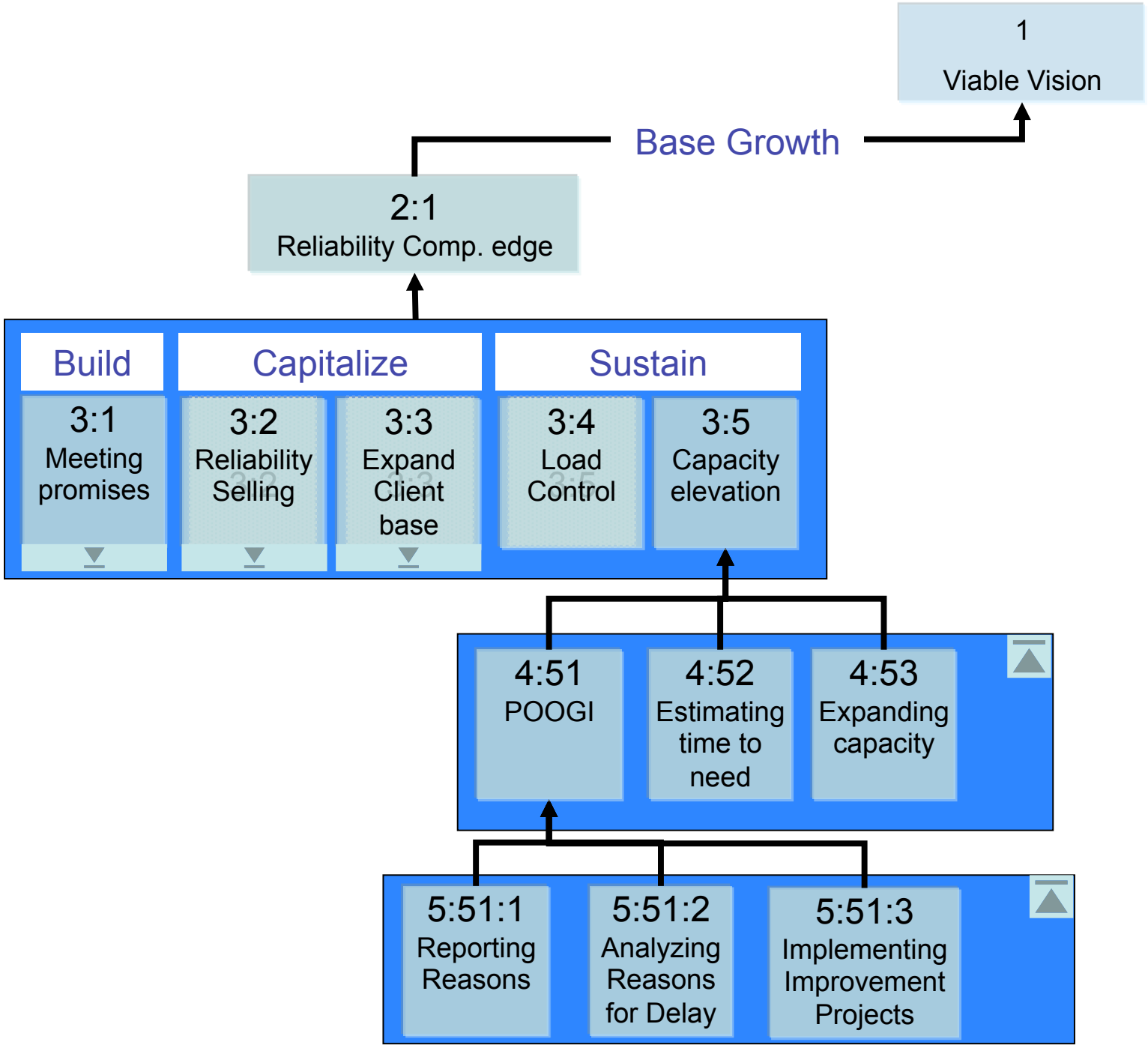
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Implementing Improvement Projects

1	Viable Vision
Strategy	(The Company is solidly on POOGI) Viable Vision is realized in 4 years or less.
Parallel assumptions	For the Company to realize the VV its T must grow (and continue to grow) much faster than OE. Exhausting the Company's resources and/or taking too high risks severely endangers the chance of reaching the VV.
Tactic	Build a decisive competitive edge and the capabilities to capitalize on it, on big enough markets without exhausting the Company's resources and without taking real risks.
Sufficiency assumption	The way to have a decisive competitive edge is to satisfy a client's significant need to an extent that no significant competitor can. [For different situations different templates satisfy this condition. The tree below is valid for situations where the project template conditions apply to (almost) the entire market of the Company.]

2:1	Reliability Comp. Edge
Necessary assumption	When the due-dates of the suppliers are notoriously bad and late delivery has major consequences for the client, reliability is a clients' significant need.
Strategy	A decisive competitive edge is gained by the market knowing that the Company's promises are remarkably reliable, when all other parameters remain the same. *In the Multi-projects arena, remarkably reliable (very high due date performance without compromising on the content) is defined as delivering well over 95% on (or before) promised due-date, while in cases of late delivery the delay is much smaller than the prevailing delays in the industry.*
Parallel assumption	Promises are cheap. Putting money to back up promises (especially when no-one else dares to do the same) is convincing.
Tactic	The Company is remarkably good at meeting its promises and offers hefty penalties for each time interval of delay. *Hefty penalties means enough to deter a competitor from offering (or even from yielding to pressure to do) the same.*
Sufficiency assumption	Building a decisive competitive edge is not easy; building the capabilities to capitalize on it is not less difficult. But, sustaining these two elements is the real challenge.

2:2	Early Delivery Comp. Edge
Necessary assumptions	➢ To rapidly achieve the VV it behooves the Company to have the ability to win significant bonuses on many projects. ➢ For many projects (and more so, for sub-projects) there is almost no gain in early delivery. STILL, for almost every environment there are large categories of projects (less so for sub-projects) in which early delivery brings substantial gains (sometimes the gains of early delivery dwarf the price of the project).
Strategy	On a considerable portion of the projects bonuses are gained.
Parallel assumptions	The company can bring down its lead time to be much shorter than market lead-times. The sales force can learn to identify the right opportunities.
Tactics	The Company builds the capabilities to: Effectively identify projects in which early completion has high value; Close bonus-based contracts; Deliver them successfully.
Sufficiency assumption	When the one that has the pressing need is aware of the one that is able to fulfill it, a sale is likely to occur.

3:1	Meeting promises
Necessary assumption	Not meeting promises (especially when hefty penalties are involved) may bring a company to its knees.
Strategy	The Company has very high due-date performance without compromising on the content. *In the multi-project arena, very high due-date performance is defined as delivering well over 95% on (or before) the original promised due-dates, while in cases of late delivery the delay is much smaller than the prevailing delays in the industry.*
Parallel assumptions	➢ Most compromises on content stem from the pressure to meet the promised due date. ➢ Critical Chain Project Management (CCPM) brings most multi-project environments to high due-date performance.
Tactic	The Company implements CCPM culture and procedures (only when high due-date performance is demonstrated is the green light given to Sales to capitalize on it).
Sufficiency assumption	To ensure an outstanding start of a major initiative it is vital that the first substantial actions will result in immediate substantial benefits.

3:2	Reliability Selling
Necessary assumptions	➢The required changes in the Company's approach to capitalize on remarkable better service (the reliability offer) is different in nature from the changes the company did in the past (new products or new markets). ➢ The long sale cycle and the long lead time to deliver a project imply that it will take a relatively long time until prospects come to realize that the Company is remarkably reliable. Leaving the positive impact of better reliability to the natural reaction of the clients will delay capitalization for a long time.
Strategy	Sales generated by the Reliability offer are increasingly growing.
Parallel assumptions	➢The knowledge to effectively capitalize on the Reliability competitive edge (in selecting market sectors, prioritizing prospects, designing offers and selling them) exists . ➢The changes required in the marketing and sales approach require time and there is no time to loose. (Because: The improvements implemented in project execution rapidly increased the rate of projects completion. If the company has not aligned its sales approach to exploit the Reliability competitive edge, after a period of high income the Company will experience, once the backlog is consumed, a substantial period of low income. Such swing might erode the confidence in the VV project.)
Tactic	From the outset of the VV project the Company aligns its marketing and sales approach to fully take advantage of the Reliability offer. (The sales and marketing core team makes sure a test launch will be done properly and promptly – step 5:23:2).
Sufficient assumption	Having a competitive edge that is service based is a paradigm shift for sales and marketing that are used to compete on technology/design/product.

3:3	Expand Client Base
Necessary assumptions	A well presented business deal results in very high hit ratio (>80%) and most sales organizations don't know how to deal effectively with a high number of good prospects.
Strategy	The Company is capable of bringing in a rapidly growing number of new clients.
Parallel assumption	The know-how of how to generate leads and how to monitor and control a sales pipeline exists (it was fully developed in industries that do not have repetitive sales).
Tactic	The Company implements the mechanism to generate leads, monitor and effectively control their sales pipeline (new business opportunities).
Sufficiency assumption	When quantities increase by an order of magnitude, it is not enough to increase capacity. New processes (of support, control and measurement) are usually needed.

3:4	Load Control
Necessary assumption	When sales are growing fast the chances increase to miss completion due-dates or to offer completion dates which are too far into the future.
Strategy	The due dates the Company gives are (almost) always accepted and met, irrespective of the growth in sales.
Parallel assumptions	When sales are growing fast, the load on key resources increases. It is relatively easy to have high due-dates performance when the commitments are given based on the staggering mechanism of CCPM. Given enough warning it is feasible to train/add suitable resources.
Tactic	The staggering mechanism of CCPM is strictly obeyed even if it results in losing some bids in the short term.

3:5	Capacity Elevation
Necessary assumptions	As sales increase and increase the staggering mechanism will cause the lead time until the new projects can be delivered to be longer and longer. When given delivery lead times are (much) longer than the competitors lead times, not only may orders be lost, but clients may be lost.
Strategy	Desired clients are not lost due to given delivery lead times which are too long.
Parallel assumptions	➢ Profits increase when additional sales are gained for just an increase in direct labor. ➢ After some time the first actions toward the VV bring the Company to be cash rich. At that stage, the load of additional investment in equipment is not a barrier.
Tactic	A mechanism is in place to rapidly open the capacity (labor and even equipment) when significant sales are endangered by giving delivery lead times which are too long.
Sufficiency assumption	Too often a company's capacity expansions resemble playing Russian roulette (making large, long-term commitments based on a vague knowledge of probability, amount, and timing of need).

3:6	Shifting to Bonus Deals
Necessary assumption	In many (most) projects, early completion does not have a real value for the project owner.
Strategy	The company concentrates on doing business in categories where early completion is of a high value to the project owner.
Parallel assumption	When the sales force is focused on the connection between project completion and value, the experience needed to identify the suitable categories is rapidly built.
Tactic	Prudent efforts (in market intelligence, sales and operational capabilities) are made to gradually shift the main business to categories where early completion is of a high value to the project owner.
Sufficiency assumption	To ensure that a complicated, large task can be performed on “mass production” scale, art should be turned into robust processes.

3:7	Rapid Project Completion
Necessary assumption	In projects where 1 month early completion brings value, usually, 2 months brings twice the value if not more.
Strategy	The company relentlessly reduces project lead times.
Parallel assumption	Usually implementation of CCPM cuts the project lead time to about 3/4. When local improvements are constantly guided by CCPM, lead time can be reduced to be surprisingly short.
Tactic	The tactics detailed in 4.51 are constantly followed (the cause for delays are always reported, the software is used to generate the Pareto analysis, and suitable improvement programs are set).

4:11	Reducing Bad Multi-Tasking
Necessary assumptions	When too many projects are executed simultaneously many resources will find themselves under pressure to work on more than one task – bad multi-tasking is unavoidable. Prolific bad multi-tasking significantly prolongs each project's lead-time.
Strategy	Flow is the number one consideration (the target is not how many projects the Company succeeds to start working on, rather it is how many projects are completed).
Parallel assumptions	➢ The statement, "the earlier we start each project, the earlier each project will be finished," is not correct for multi-project environments (not only the first elephant but also the last elephant will go through a door much faster if they go in procession). ➢ Vast experience shows that in multi-project environments, reducing the number of open projects by at least 25%, reduces bad multi-tasking without causing starvation of work and therefore significantly reduces the lead time of all projects – it increases the flow. (When most projects are of similar content, the rate of projects completed increases by minimum 20%.) (Cont.)

4:11	Reducing Bad Multi-Tasking (cont.)
Tactic	The Company properly controls the number of projects that are open at any given point in time (the number of open projects puts less than 75% of the existing load).
Sufficiency assumption	Adjusting the amount of work is not enough. The company must also ensure that as time passes the proper amount of work will be always maintained.

4:12	"Full-Kit"
Necessary assumptions	The current pressure often causes projects to be in execution without the needed preparations being completed (detailed specifications, authorizations, etc.).
Strategy	A project is rarely launched before its preparations are complete.
Parallel assumptions	➢ The resources dealing with preparations are caught in a never-ending catch-up cycle. ➢ Freezing of projects frees up, for a while, ample capacity of the resources dealing with preparations.
Tactic	The company uses the window of reduced load on resources that do the preparations to ensure that "full kit" practice will become the norm.
Sufficiency assumption	An exception to the rule might be misused in order to by-pass the rule.

4:13	Planning
Necessary assumptions	➢ Contrary to the common belief, safety embedded at the task level prolongs the project without providing sufficient safety to the project completion. ➢ Contrary to the common belief, having detailed visibility (having too detailed a PERT network) almost guarantees that control will be lost.
Strategy	Flow is the number one consideration (it is not important to finish each task on time, it is essential to finish each project on time).
Parallel assumptions	➢ The bigger the uncertainty, the bigger the safety embedded in the task's time estimates. In the vast majority of project environments safety is at least half of the time estimate. ➢ Shifting the safeties from the tasks to the end of their respective task sequences (paths) not only places the safety in the place where it should be but also requires much less safety than the sum of safeties removed from the tasks. ➢ Critical Chain methodology provides a proper guide for where and how much safety should be inserted in project planning. ➢ To get excellent control, it behooves keeping the number of tasks in the PERT network to less than 300 (for huge projects zooming might be needed). ➢ Using templates (when applicable) significantly reduces the planning time and reduces unneeded variations.

4:13	Planning (cont.)
Tactics	For all projects proper PERT networks are built (using templates where appropriate). The time estimates are cut in half and projects and feeding buffers are inserted according to CCPM. The projects are properly staggered. The resulting plan is used to properly release projects into operations. The resulting planning ability is used to determine reliable and acceptable due-date commitments for new projects.
Sufficiency assumption	Planning is useless unless it significantly helps operations.

4:14	Executing
Necessary assumptions	➢ Hectic priorities result in a “crisis mode” of management. ➢ The common practice of "turning task estimates into commitments“ makes it uneasy for managers to intervene into a task execution early on. The combination of the above two phenomena delays needed management assistance.
Strategy	Projects are actively managed to ensure their successful, rapid completion.
Parallel assumptions	➢ The only way to determine the priority of a task is by examining its impact on the completion of the project. In other words, priorities should be set ONLY according to the degree the task is consuming from its project (or feeding) buffer. Critical Chain Buffer Management is a priority system that operates according to this concept. ➢ Management assistance can usually help a top priority task. Helping top priority tasks is helping the projects. ➢ The assistance that can (and should) be provided by task manager is different in nature from the assistance that can be provided by project manager. Top managers assistance is sometime indispensable.
Tactics	Critical Chain Buffer Management is the ONLY system used to provide priorities. Priority reports are provided in different forms to different management functions. Mechanisms are set to enable proper usage of the priority information.
Sufficiency assumption	Knowing when not to intervene is almost as important as knowing when to intervene.

4:15	Mitigating Client's Disruptions
Necessary assumption	Many times the client is the cause for the project being late by delivering late on inputs (information, components, authorizations etc.) and/or by demanding specification changes.
Strategy	The Company has very high due-date performance even in cases where client inputs are required and/or specification changes occur.
Parallel assumptions	CCPM provides the ability to identify which delays in input and which specification changes are likely to delay the completion of the project (most input and specification changes do not delay the completion of the project, however, they are still extensively used as excuses). When the client professionals realize the quantifiable impact of their actions (delayed input or specification changes) they are very likely to change their behavior in accordance.
Tactics	The client professionals are exposed to the CCPM project network and the logic of its buffers. The Company people who interact with the client are professional at communicating the impact the client actions have on the completion of their project and the resulting damage. The mechanism is in place to adjust due-date commitments when applicable.

4:16	Contracted Sub-Projects
Necessary assumption	Almost all multi-project environments suffer from notoriously bad due-date performance. In cases where a sub-project is contracted, the more the Company improves its performance the higher the likelihood that the prime reason for a delay in a project completion will be delays caused by the sub-contractor.
Strategy	The Company has very high due-date performance even in cases where sub-projects are contracted.
Parallel assumptions	➢ CCPM provides the ability to zoom in on the task that jeopardizes the completion of a project. The relationship between a prime contractor and a sub-contractor enables the Company to provide the needed focusing for its subcontractors. ➢ When the business relationships with the sub-contractor are hourly based, a prime concern of a sub-contractor is to “click” enough hours. Even in that case, it is possible to use the eagerness of the contractor to get higher fees per hour to remove the conflict with the Company's on-time needs.
Tactics	➢ The Company provides on-going focus to the sub-contractors. ➢ When appropriate, the Company is careful to provide the right incentives for satisfactory on-time performance to its sub-contractors.
Sufficiency assumption	Many times, things not under the Company’s direct control are still under the Company’s (strong) influence.

4:21	Target Market Definition
Necessary assumption	Pursuing wrong prospects is not just a waste of valuable resources (money, sales capacity, time...) but it can lead to the "conclusion" that the direction is invalid.
Strategy	Salespeople know which prospects to pursue with the Reliability offer.
Parallel assumptions	➢ There are prospects where Reliability is not a significant need. ➢ There are prospects where Reliability is a significant need however, they are too risky or require excessive efforts to work with.
Tactics	Target markets are defined according to conditions that are: ➢ Easily checked, and ➢ Relate to a non-negligible number of prospects. The conditions prioritize prospects according to: ➢ The degree to which reliability is a significant need; ➢ The estimate of the ratio efforts/returns; and ➢ The degree of business risks.
Sufficiency assumption	When planning the changes resulting from a new powerful tool, the impact, of both lack of confidence and inertia, in delaying/distorting the transition should not be overlooked.

4:22	Detailed Offer Design
Necessary assumptions	When the details of an offer are not clearly laid out, it is easy to turn even the best sales offer into a mess. When the details of the offer are not constructed to mitigate risks and ensuring benefits (to both clients and the Company) the outcome may be losing many good sales opportunities and/or losing profit margins.
Strategy	The Company has a detailed Reliability offer that guarantees exceptional benefits to its clients while ensuring that the Company is not taking any real risk.
Parallel assumptions	To construct a good offer four elements must be thoroughly understood: ➢ The net benefit for the client relative to a standard offer. ➢ The benefits to the Company. ➢ The risk for the client (relative to risk the client takes in a standard offer). ➢ The risk to the Company (relative to the existing risk the Company experiences in a standard offer). Ensuring the benefits provides the detailed backbone of the offer. Mitigating the above risks provides important details of the offer.
Tactic	A team is empowered to construct the details of the Reliability offer maximizing the benefits (to both the clients and the Company) and minimizing the risks (to both the clients and the Company).
Sufficiency assumption	Inertia is the biggest enemy of the new.

4:23	Sales Execution
Necessary assumption	Conventional sales methods are not effective enough to capitalize on a competitive edge that stems from anything other than the product itself.
Strategy	The sales force is professional at selling the Reliability offer.
Parallel assumption	It is possible to switch most sales people from the conventional mode of selling products to the very different mode of selling business deals.
Tactic	The sales force is equipped and trained in effectively selling the Reliability offer.
Sufficient assumption	To ensure that a complicated, large task can be performed on “mass production” scale, art should be turned into robust processes.

4:31	Leads Generation
Necessary assumption	When a company is used to bringing in only a limited number of new clients a year, lead generation is mainly based on opportunism.
Strategy	There is a sufficient, constant flow of qualified leads waiting to enter the sales pipeline.
Parallel assumption	Having a decisive competitive edge offer opens new possibilities to generate a growing number of leads. The characteristics of a person who can build a good lead-generator are not the same as the characteristics of a good salesperson.
Tactic	Develop and apply a mechanism, which requires less and less of the sales peoples' capacity, to generate a constant buffer of qualified leads.

4:32	Pipeline Management
Necessary assumptions	An organization that is used to dealing with only a few prospects at a time is not set-up to deal with a quantum leap in numbers of opportunities. Wasting, due to lack of proper attention, a prospect that already expressed a genuine interest, is a crime.
Strategy	Opportunities are not lost due to improper attention.
Parallel assumption	When a resource handles too many opportunities, "Bad Multi Tasking" is unavoidable.
Tactics	Develop and apply a (DBR-BM based) mechanism to: ➢ Choke the release of opportunities from the buffer to the sales pipeline; ➢ Monitor and prioritize opportunities according to the duration of the opportunities in the sales pipeline (duration in each step and overall duration); ➢ Identify major causes for delays/drop-outs and take corrective actions (many times engineering is THE major cause of delay); ➢ Monitor the effectiveness of the offer in the various market segments / product categories to redirect marketing/sales.

4:33	Sales Measures
Necessary assumptions	“Tell me how you’ll measure me and I’ll tell you how I will behave.”
Strategy	The measurements do not de-motivate salespeople from advancing opportunities in the sales pipeline in accordance with the VV outlines.
Parallel assumptions	A quota that seems unreachable demoralizes most salespeople. When there are ample leads and the offer guarantees a high hit ratio, there is no need to put the sales people on a high quota as long as they have incentives to over-achieve the given quota.
Tactic	If the sale force is used to quotas (and incentives), establish reasonable quotas (and incentives) that drive salespeople to overachieve their quotas.

4:51	POOGI
Necessary assumptions	➢ When sales are growing it behooves the Company to make an effort to refine its procedures so that people utilization is increased considerably. ➢ Recruiting people into a chaotic environment might not add to the effective capacity.
Strategy	The Company constantly ensures its capacity is well exploited without exhausting the people.
Parallel assumptions	The biggest damage – to the projects, to capacity utilization and to the work environment – is done by the procedures that cause the deepest penetrations in the projects' buffers. The prudent way to identify the most damaging defective procedures is: 1. Create the general bank of reasons by recording the reason for each delay in tasks' completion (recording: what the task is waiting for). 2. Each time the task that penetrates the most into its project buffer is identified, a search is done into the general bank of reasons to identify all the reasons that accumulated into that major delay. These relevant reasons are put into the bank of relevant reasons. 3. Periodically Pareto analysis is done on the relevant reasons bank to identify the most common causes of major delays. 4. Experience shows that when a team addresses the outcome of the Pareto analysis it can easily identify the obvious defective procedures. Moreover the team usually comes up with simple modifications that will remove the bad effects.

4:51	POOGI (cont.)
Parallel assumptions (cont.)	The results of such efforts are expected, within one year, to again shrink the projects' lead-times (by about half) and reveal about 50% more excess capacity. Also such efforts will expose hidden CCRs - those that are involved in many tasks but are not contributing enough time to tasks to be registered as a task-needed resource.
Tactics	➢ The discipline to report the reasons for tasks' delays is put in place. ➢ The company uses the Pareto provided by CCPM to focus the process improvement teams initiatives (if improvement teams of LEAN or Six Sigma are not yet established such teams should be established).
Sufficiency assumption	Even when the determination to concentrate on improvements exists, if there is not a clear identification of what should be improved people tend to concentrate on improving things that they can improve.

4:52	Estimating time to need
Necessary assumptions	Even when prudent efforts are made to expose excess capacity, resource capacity is not infinite. Not knowing when additional capacity will be needed leads to increasing expenses/investments too early or (even worse) too late.
Strategy	The Company has a good enough evaluation of the time left until lack of capacity will start to jeopardize sales.
Parallel assumptions	The Company starts to run the risk of jeopardizing sales (entering into the “danger zone”) when the lead-times it offers its prospects start to be longer than the competitors lead-times. The time until the Company enters the “danger zone” depends on the pace at which the load on the staggering resource is advancing (and expected to continue advancing).
Tactics	The Company implements a mechanism that constantly analyzes the pace at which the load of the staggering resource advances and derives a reliable prediction of the time until the Company will reach the “danger zone.”

4:53	Expanding Capacity
Necessary assumptions	Not knowing how much time it will take to have additional capacity leads to increasing expenses/investments too early or (even worse) too late. The time from making the decision to open capacity until the additional capacity is usable is heavily dependent on the level of preparations (actions that can be taken without any final commitment).
Strategy	Capacity expansions are timely done.
Parallel assumptions	The knowledge of what type and amount of capacity is needed for the next expansion step is available when the CCPM buffer management and POOGI analyses are in place. The time and needed preparations to add capacity depend on the type of resource(s) needed (preparation includes internal structure of training). When proper preparations are done, the time from making the decision to having the additional capacity available is well-known.
Tactic	The Company builds the section that is in charge of the capacity elevation program.

4:61	Shaping the “bonus” market
Necessary assumption	For many projects (and more so, for sub-projects) there is almost no gain in early delivery. STILL, for almost every environment there are large categories of projects (less so for sub-projects) in which early delivery brings substantial gains (sometimes the gains of early delivery dwarf the price of the project).
Strategy	The Company knows which markets to grow with the Early Completion offer.
Parallel assumptions	The experience of selling the reliability offer provides the opportunity for the Company’s professionals to identify when there is also high value for early completion. In many cases, the projects where early completion has high value are representative of a group of projects (projects category).
Tactics	During the implementation of the first phase (selling the reliability offer), the Company’s professionals examine each opportunity to check (without giving the offer!) the value of early completion. The parameters impacting the value and the projects categories where early completion is of high value are defined (this should be verified by approaching prospects implementing projects of the same category).

4:62	Bonus Offer Design
Necessary assumptions	When the details of an offer are not clearly laid out, it is easy to turn even the best sales offer into a mess. When the details of the offer are not constructed to ensure benefits and mitigate risks (to both clients and the Company) the outcome may be losing many good sales opportunities and/or losing profit margins.
Strategy	The Company has a detailed, early-completion offer that guarantees exceptional benefits to its clients while ensuring that the Company is not taking any real risk.
Parallel assumptions	To construct a good offer four elements must be thoroughly understood: ➢ The net benefit for the client relative to a standard offer. ➢ The benefits to the Company. ➢ The risk for the client (relative to the risk the client takes in a standard offer). ➢ The risk to the Company (relative to the existing risk the Company experiences in a standard offer). Ensuring the benefits provides the detailed backbone of the offer. Mitigating the above risks provides important details of the offer.
Tactic	A team is empowered to construct the details of the early completion offer (bonuses per time interval of early completion, and Terms & Conditions), maximizing the benefits (to both the clients and the Company) and minimizing the risks (to both the clients and the Company).

4:63	Bonus Sales Execution
Necessary assumptions	➢ Asking for bonuses is a dramatic change for salespeople who argue on a daily basis with clients about price. ➢ Operating without a competitive edge drives a company to try and win any opportunity coming their way. Having a decisive competitive edge behooves being selective in choosing opportunities. Making the shift to being selective is surprisingly difficult for most salespeople.
Strategy	Salespeople know how to present the early completion service option and reject inappropriate deals.
Parallel assumption	Successful experience with an “unrealistic” offer, turns it into an “of course” offer.
Tactics	Train, coach, and handhold the salespeople (internal and external) in presenting the early completion service The Company sales managers are coached not to compromise the offer’s key parameters when occasionally confronted with sales (or clients) pressures.

4:64	Value Modeling
Necessary assumptions	Many times even the client's project leader is unaware of the (quantifiable) value that will result from early completion of the project. When the value is vague, early completion might not be perceived as important enough to justify high bonuses.
Strategy	For the various environments of the prospected projects, the sales force is able to convince the client of the quantifiable value of early completion.
Parallel assumption	The knowledge of how to identify and quantify the various ways in which early completion brings value exists for most environments.
Tactic	Sales support professionals are properly trained to identify and quantify the value of early completion.

5:11:1	Freeze
Necessary assumptions	➢ Reducing the number of open projects by delaying the introduction of new projects is too slow – freezing open projects is required. ➢ It is unrealistic to expect that project managers will reach a consensus on which projects should be frozen *("I fully agree… as long as my elephant goes through the door first!")*.
Strategy	The number of open projects is quickly reduced to be more inline with better flow and throughput.
Parallel assumptions	➢ In the extreme case, when there are not enough projects in execution, "Starvation" lowers the rate of projects completion. In the opposite extreme, when there are too many projects in execution, "Bad-Multi-Tasking" lowers the rate of projects completion. Between these two extremes there is a (almost) plateau. ➢ Having prolific Bad-Multi-tasking is a clear indication that a system is in the second extreme case. Reducing the load by 25% will move the system away from one extreme without the danger of reaching the other extreme. ➢ A person in charge of a cluster of projects can and should decide on their relative priorities.
Tactic	➢ The top manager in-charge of all projects, after consulting with his subordinates, determines the prioritization of projects and instructs to freeze (cease activities on) enough* of the lowest priority projects. * "Enough" means: responsible for at least 25% of the load. ➢ The proper actions are taken to ensure full adherence to the freezing decision.

5:11:2	Accelerate project completion
Necessary assumptions	There is an optimal number of resources per task and per project. In most multi-project environments the eagerness to start all projects as fast as they are won causes spreading resources too thin between projects. This practice causes the lead time of all projects to increase and promotes bad multi-tasking.
Strategy	There is good assignment of resources to projects.
Parallel assumptions	➢ Manning of projects according to their optimal number of resources (rather than trying to squeeze in more projects) leads to an overall increase in the rate at which the Company finishes projects while decreasing the projects' lead-times (in some environments by up to 25%). ➢ The freeze causes many people not to have an active assignment (and people standing idle spread demoralization).
Tactics	➢ The optimal number of the various types of resources needed for each open project is determined. The freed resources are used to prudently strengthen the open projects. ➢ Proper manning decisions are also done for the frozen and to be released projects.

5:11:3	Defrost
Necessary assumptions	➢ Defrosting projects too early will, again, flood the system with work. ➢ Defrosting projects too late will lead to starvation of work and unnecessarily extend projects' lead times.
Strategy	Frozen projects are defrosted at a pace that maintains the reduced load.
Parallel assumptions	➢ The level of the reduced load is approximately maintained when defrosting projects is in-sync with projects being completed. ➢ Defrosting projects in-sync with the link that determines the pace of projects completion, also provides focusing on which actions/initiatives help and which jeopardize the flow. ➢ In multi-projects environments the factor that determines the pace of project completions is not the most loaded department but the synchronization between the various "legs" of the projects. ➢ Integration is the link where, for each project, the various legs are coming together. ➢ Having too many projects in integration diffuses the efforts to complete projects according to their priorities since whenever a problem that requires chasing a resource from another department is encountered the tendency is to work on another project.
Tactic	The company chooses integration (or part of it) as the VIRTUAL DRUM : The number of projects allowed in that section is restricted to be, at most, 75% of the current number. When a project completes this integration a frozen project is defrosted. The sequence of defrosting projects is according to the agreed projects prioritization.

5:11:4	Release of new projects
Necessary assumptions	For most projects there is vast difference between the lead-times of their various “legs”; there is no one date for release of a project. Release of all legs of the project at one shot increases unnecessarily the load. Note: For frozen projects most “legs” have already been released.
Strategy	The timing for the release of each “leg” of a new project takes into account the lead-time of the leg.
Parallel assumptions	➢ For most multi-project environments it is too cumbersome to manually calculate properly the release dates of the various legs of new projects. ➢ Most project environments (and most commercially available software) do not consider the fact that the lead time of the various “legs” of a project are also a function of the load on the various resources (Critical Path vs. Critical Chain – removing resource contentions). ➢ The lead time of a project and the lead time of the various legs of a project are a function of the way safety is included (safety in the task level or in the project level - Project and Feeding Buffers). Most project environments (and most commercially available software) do not use the concept of Project and Feeding Buffers.
Tactic	When the time arrives to release new projects, steps 4.12 and 4.13 should be in place. At that stage, a system to release new projects using the CCPM concepts is ready.

5:12:1	Working on preparations according to priorities
Necessary assumptions	In most multi-project environments the importance of complete preparations – "full kit" – is frequently/constantly radiated by top operational managers. The mere fact that delays and even rework caused by missing preparations is so prevalent, indicates that usually the drive to "full kit" quickly deteriorates to lip service.
Strategy	Resources and project leaders are used to working on projects whose preparations are (almost) fully completed.
Parallel assumptions	➢ A powerful way of turning a good mode of operation into the norm is to ensure that each resource experiences first hand that mode of operation, and enjoys the outcome. This can be accomplished by using the freed-up time to complete the preparations on the running projects. ➢ The things that are missing are usually things for which there is some difficulty to complete. Therefore, if given the option, resources working on preparations would prefer to focus on preparing new projects about to be released rather than relentlessly chasing the preparations gaps on open projects.
Tactic	A Full-Kit manager is appointed. The relevant resources are instructed to complete the preparation steps first for the running – not frozen - projects. Then to complete the preparations for frozen projects. Only when (most of) the above is done they are guided to work on the preparations for the new projects waiting to be released. They always follow the projects priority.

5:12:2	Defining "Preparations"
Necessary assumption	The permission to work on preparations on frozen projects (and even projects that are not yet released) might be misused by eager project leaders to pressure resources to work on more than just preparations on frozen projects – flooding back the system with work.
Strategy	The permission (or even demand) to work on preparations does not violate the freeze and/or controlled release intentions.
Parallel assumptions	There is a good intuitive understanding of which activities are regarded as preparations and which are not. In most multi-project environments there is no formal definition of which activities are entitled preparations and which are not.
Tactics	➢ The activities which should be titled preparations are officially defined as such. ➢ The company takes the actions to ensure that resources (those conducting the preparations and project managers of frozen and unreleased projects) are guided and monitored to work only on the preparation activities as defined.

5:12:3	Worried clients
Necessary assumptions	In some environments, delaying the release of projects, might cause the exposure that clients (seeing that no work had started on their project and concluding that their project will not be ready on time) might transfer their project to a competitor.
Strategy	The threat of loosing projects due to a late start is alleviated.
Parallel assumptions	➢ Clients of projects are fully aware that proper preparation is essential to shrink the lead time of a project. ➢ In most environments some preparations involve the client's efforts. In all environments it behooves the Company to regularly report to the client about progress/difficulties in preparations. Therefore the full exposure exists only in the window of time when preparations are not allowed to be done on new projects (the time until the freed-up resources complete the gaps on open and frozen projects).
Tactic	The Company relentlessly completes all preparations (closes the gaps) on running and frozen projects. Note: At that stage preparations are done on new projects and the exposure is drastically reduced. Once the Reliability offer is properly launched the above threat is completely removed.

5:13:1	Building PERTs
Necessary assumptions	➢ Managing a project without formal planning (PERT) is a recipe for increased improvisation and miss-communication. ➢ Vast experience shows that a PERT that is too detailed (over 300 tasks) is useless as a tool for execution (that is the main reason for neglecting the PERT much before the projects are finished). ➢ In most multi-project environments PERTs do not exist or they are much too detailed.
Strategy	All projects about to be released have PROPERLY detailed PERTs.
Parallel assumptions	Very large projects are managed effectively by relatively small PERTs; the PERTs used to build a north sea oil-rig ($4B) and the overhaul of the largest cargo airplane (the C5) each have less than 300 tasks. The following guidelines can help to tame the tendency to over-inflate a PERT: ▪ A PERT is not a task manual. ▪ A PERT is not a reminder list. ▪ A task that takes less than 2% of the project's lead-time must have a very good reason to appear in the PERT. ▪ A task represents a group of work. It should not be broken down to several tasks just because it requires different resources for different durations of time. But it should be broken for chosen key-resource-types; a task should be defined so that those type of resources are required for most of the task time. ▪ In most multi-project environments many projects are variations of the same generic project. Using templates (PERTs of generic projects) as the base for constructing the PERT of actual projects, reduces drastically the required time and efforts and eliminates overly detailed tasks that should not appear in the plan.

5:13:1	Building PERTs (cont.)
Tactics	All relevant projects (projects which are not to be soon completed and the projects to be released in the near horizon) are considered in order to determine the generic projects. Proper teams construct the templates per each generic project making sure that the resulting PERT will be PROPERLY detailed. Per each relevant project enough uninterrupted time is devoted by the project-planning-team (the key people that constructed the template and the key project people), to PROPERLY modify the template to fit the specific project.

5:13:2	Building Critical-Chain-PERTs
Necessary assumptions	➢ In most projects the same type of resource is required to perform several tasks. Not considering resource capacity - assuming the same resource can perform multiple tasks in parallel - makes the plan unrealistic to start with and encourages, by design, bad multi-tasking. ➢ Having safety embedded in tasks' time-estimates greatly inflates the overall project duration without sufficiently protecting the project completion.
Strategy	The company uses Critical-Chain-PERTs that enable on-time, faster project completion.
Parallel assumptions	➢ In multi-project environments the same type of resource is required to perform several tasks on many projects. Usually, the specific project know-how gained by a resource that has already worked on the project causes substitution to be inefficient. Therefore, sometimes after the start of a project, even when there is a large pool of identical resources, the number of this type of resources which are practically suitable for a project is limited. ➢ Many times a task which is a prerequisite for another task is actually a prerequisite for just a portion of that task. Splitting that task into two components may shorten, significantly, the lead-time of the path. (cont. on the next page).

5:13:2	Building realistic PERTs (cont.)
Parallel assumptions (Cont.)	Vast experience shows that the following process provides a realistic PERT for a project: 1. For each key-resource-type the maximum number of resources that will be suitable for the project is defined. 2. The time line of the PERT is adjusted to remove resource contentions. 3. The Critical Chain is identified. 4. On the Critical Chain the possibility of splitting tasks to reduce the lead time is examined. 5. Steps 3 and 4 are done repeatedly until the Critical Chain is finalized. 6. The time estimates are cut in half (not negotiable) and the project buffer and the feeding buffers are created (if there is too much resistance to cut a time estimate in half, don't compromise on the time allotted, instead increase the corresponding buffer).
Tactics	A CCPM workshop is conducted for all people participating in the project-planning-teams. For each relevant project the project-planning-team continues by following the Critical-Chain process to turn the initial PERT into a Critical-Chain-PERT. The templates are finalized.

5:13:3	Staggering
Necessary assumptions	In multi-project environments most key resources work across projects. Not considering resource contentions across projects makes the plan unrealistic to start with and encourages, by design, bad multi-tasking.
Strategy	Projects are planned to ensure effective operation.
Parallel assumptions	➢ An effective way to deal with resource contention across projects is not to try and resolve each resource contention (a futile, exhausting, exercise bearing in mind that the actual time the work is performed is likely to be shifted due to the high variability) but rather to do good enough smoothing of the load on each resource type. The temporary peak loads that remain in the plan (and the many more peak loads caused by Murphy) are absorbed by the buffers. ➢ A VIRTUAL DRUM staggers the projects in accordance with the actual pace of the system. Therefore, it effectively smoothes the load on each resources type. ➢ Emulating the VIRTUAL DRUM in the planning stage resolves the resource contention problem. (cont. on the next page)

5:13:3	Staggering (Cont.)
Parallel assumptions	Emulating VIRTUAL DRUM in planning – the STAGGERING mechanism: 1. For all projects consider ONLY the tasks performed by the chosen integration area. 2. Following the projects priority, place these tasks on a time line, obeying the restriction of number of projects allowed to be worked on in that integration area - Staggering. 3. Adjust the time estimations of the tasks on the time line to reflect the actual rate at which projects finish this integration. 4. For each project use the time determined for the integration tasks as an anchor to place all other activities. 5. Examine the resulting load on key resource types. If there are peak loads that cannot be absorbed within half of the corresponding buffers check for and correct errors in the data. 6. If a certain project is planned to be completed significantly after its committed due-date, better inform the client now.
Tactic	➢ A proper team invests the time needed to emulate the VIRTUAL DRUM and to identify and correct the crucial data errors. ➢ Actions are taken to ensure that projects are released according to the plan (legs having different lead-times are released at correspondingly different dates). ➢ Actions are taken to ensure that due dates for new projects are committed ONLY according to the STAGGERING mechanism (or top management's decision to postpone a specific existing project).

5:14:1	Task completion reporting
Necessary assumptions	➢ Variability (and its big brother Murphy) changes priorities. ➢ In most multi-project environments, frequent reporting on progress by task managers is constantly demanded. Still the frequency and accuracy of the reports is far from satisfactory.
Strategy	The required data is always adequately available.
Parallel assumptions	➢ People tend to procrastinate on their reporting when reporting doesn't have an immediate/significant impact on them. ➢ Traditionally the things demanded to be reported by task managers are used for financial purposes (calculating the cost absorbed by the projects). In multi-project environments this use has no relevancy to the task managers. ➢ In multi-project environments the pressure, exerted from all sides, makes it very important for task managers to know the true priorities. ➢ The data that is essential to determine priorities is not the amount of time already invested in a task but the estimation of the time still required for the task to be finished (task status). ➢ A delay in a task (and an expected delay) can change the critical chain resulting in a major change in priority to tasks of many task managers. Conclusion: when there is a proper priority system, daily reporting on tasks' expected completion dates is extremely helpful to task managers.
Tactics	➢ Proper explanation is given to all task managers: what is required from them to report on a daily basis, how this information is going to be used and that they will, at last, be able to obey ONLY the formal priority list. ➢ The company launches the daily reporting (by task managers – not by the resources) procedure and relentlessly enforces it.

5:14:2	Task Management
Necessary assumption	In the common “crisis mode” management, task managers shift priorities frequently and intervene in tasks’ execution mainly when it is clear the task will not be completed on time.
Strategy	Tasks are executed according to their priorities. Preparations and corrective actions are taken in due time.
Parallel assumptions	Vast experience suggests the following: ▪ Based on status reporting, each task has its up-to-date priority according to the impact it has on its project completion – percent penetration into the corresponding buffer. ▪ Every day the task manager gets two lists of tasks: The list of tasks currently being executed and the list of tasks that are incoming, both sorted according to their up-to-date priorities. ▪ Based on the tasks’ priority of currently executed tasks the task managers, aimed at minimizing/eliminating delays, decide on the level and type of intervention. ▪ For each incoming task, the task manager ensures the necessary conditions to start the task are in place: approvals, designs, (uninterrupted) resources etc.
Tactics	➢ Following the priorities task managers assign the optimal number of resources to tasks. ➢ Task managers review daily two lists of tasks (open and incoming) and according to the up-to-date priorities make sure tasks are effectively progressing.

5:14:3	Project Management
Necessary assumption	There are cases in which task managers cannot take an effective action to minimize/eliminate delays (the required corrective actions are outside the task manager's control or effective influence).
Strategy	Project managers are driving a "project buffer recovery" process for cross departmental actions and exceptions not handled by task management.
Parallel assumptions	➢ At any given point in time the task that determines the completion of the project is the task that penetrates the most into the project buffer. ➢ When adequate reporting is done, an up-to-date report is available that lists, for each project, the tasks that penetrate the most into the project buffer (and also provides visibility into the status of the feeding buffers). ➢ Using that list a project manger knows which tasks are essential to check with the corresponding task manager if proper actions have been taken and if help is needed (and therefore also knowing which tasks do not require intervention).
Tactics	➢ Project managers review daily the list of tasks penetrating the most into the project buffer and check if recovery actions are taken or required to ensure that the project is effectively progressing. ➢ In extreme cases the project's Critical Chain PERT (and even the template) are updated.

5:14:4	Top Management
Necessary assumptions	In most multi-project environments top managers don't have good enough visibility into the projects. On one hand they are bombarded with requests for more (resources, equipment etc.) and on the other hand projects that seemed to be progressing well are (all of a sudden) reported as going to be late and then very late.
Strategy	Top management is well informed and in full control.
Parallel assumptions	➢ In most multi-project environment a project's progress is judged according to the percent of hours already invested relative to the total hours planned. (The result is the prevailing phenomenon where 90% of the project is done in one year and the remaining 10% takes another year.) ➢ The effective measure of a project's progress is percent of Critical-Chain completed. The measure of a project progressing well is the percent of Critical-Chain completed relative to the percent of project buffer consumed. The measurement of project recovery is the improvement in the previous measurement. ➢ A suitable graph gives a one page clear picture on all projects current status (and for each the specific task that currently determines the project completion date).
Tactics	Top management reviews periodically (every two weeks) the projects' status. For projects whose progress is not satisfactory, the recovery actions are examined.

5:14:5	Virtual-Drum adjustments
Necessary assumptions	➢ In the planning the time estimates of the tasks on the Virtual-Drum were set to reflect the capability of the Company to finish projects (this rate is not dictated by capacity but by the level of synchronization). ➢ The planning mechanism controls the release of new projects according to the Virtual-Drum. ➢ The rate at which the Company finishes projects can not be (constantly) higher than rate of release. ➢ The improved execution (steps 5:14:2-4 and 4:51) increases significantly the level of synchronization and therefore the capability of the Company to finish projects at a higher rate. Therefore, if in the planning, the Virtual-Drum "loading" will not be (frequently) adjusted to reflect the improved synchronization, the Company will finish projects not in the rate it is capable of but in the historic rate it had when the planning was initiated.
Strategy	The Company's rate of completing projects is in accordance with the Company's changing capabilities.
Parallel assumptions	➢ When synchronization improves and the rate at which projects are released had not been increased, the number of projects waiting to enter the chosen integration will drop. After some time the number of projects in the chosen integration will drop (from time to time) below the restricted number allowed. (Cont.)

5:14:5	Virtual-Drum adjustments (Cont.)
Parallel assumptions (Cont.)	➢ The rate of drop, in the number of projects in and before the chosen integration, is an excellent indicator to the required adjustment in the rate of the Virtual-Drum (adjusting the time estimates of the tasks on the Virtual Drum to reflect a rate of execution to be higher by the corresponding rate of drop in number of projects). ➢ Check: In such a situation, there is no significant accumulation of projects in other stages - which is the case when there is a sharp deterioration in the Company's capabilities (due to losing too many people or due to a significant shift to projects that require a still not fully mastered technology).
Tactic	The Company constantly monitors the number of projects in and before the chosen integration and periodically adjusts the rate of the Virtual-Drum in accordance.

5:16:1	Controlling Contracted Sub-Projects
Necessary assumptions	➢ Sub-contractors for sub-projects are usually companies whose environment is a multi-project environment. ➢ In most multi-project environments due-date performance is notoriously bad in spite of management's determination to improve.
Strategy	The Company helps its sub-contractors to better deliver on (or before) time.
Parallel assumptions	➢ It is common for a prime contractor in project environments to dictate to its sub-contractors some procedures of reporting. ➢ The Company can demand that the sub-contractor will supply a PERT network for the contracted sub-project. ➢ The Company can, for their own purposes only, change the supplied PERT to a buffered PERT by removing 50% of the task estimates and placing them as buffers at the end of the applicable paths (there is no point in attempting to remove resource contingency). ➢ The company can demand that the sub-contractor will report daily his progress (remaining duration) on the network tasks and use this report to identify the task that currently endangers the on-time performance of the contracted sub-project. ➢ Regarding the "endangering task" the Company can demand a report on the recovery actions. ➢ Experience shows that the above procedure, accompanied by proper explanation of the underlying mechanism, is appreciated by sub-contractors.
Tactic	The Company demands that the sub-contractors submit the relevant PERTs and daily reports on tasks' progress. This data is used to provide ongoing focus to the sub-contractors.

5:16:2	Aligning Business Terms
Necessary assumptions	In cases where the business relationships with the sub-contractor are hourly based there is an inherent misalignment between the Company and the sub-contractor (the Company wants to get the deliverable on time and with as few hours as possible while the sub-contractor wants to work as many hours as feasible). In such cases incentives for early completion have a limited (if any) effect.
Strategy	The Company's sub-contractors are effectively incentivized to deliver on, or before, time.
Parallel assumptions	➢ For sub-contractors who are used to hourly-based contracts, the prime concern is fee-per-hour. ➢ Usually, the bigger the delay in a project the higher the number of hours invested. ➢ An incentive that offers a sub-contractor a higher fee-per-hour for early delivery is effective in inducing the contractor to deliver earlier. ➢ Experience shows that, in many cases, the higher fee-per-hour was more than compensated by the reduction in number of hours invested.
Tactic	The Company offers significant bonus payments (per hour) to its sub-contractors for on-time (or earlier) delivery.

5:21:1	Reliability focus
Necessary assumptions	➢ Not having, thus far, a decisive competitive edge that stems from remarkable reliability, it stands to reason that the market analyses the company has done were based mainly on a product view. ➢ The importance of Reliability may be different for different type of projects/clients.
Strategy	The Company targets markets where Reliability provides best leverage.
Parallel assumptions	➢ The importance of Reliability is a function of: 1. Suppliers' DDP and 2. The damage caused by late delivery. When suppliers work in a multi-project environment it is safe to assume that DDP is poor. Therefore the extent to which Reliability is/should be important to the client is determined by the magnitude of the damage that late delivery inflicts on the client. ➢ When the Company delivers the overall project (or delivers a sub-project that is likely to determine the completion date of the project) a delay in delivery will inflict a damage on the client. The magnitude of the damage is a function of the degree to which the delay causes: ▪ Reducing or delaying the benefits expected from having the project completed (the reason for the client initiating the project in the first place). ▪ Additional cost associated with the delay (penalties, paying suppliers for additional time, paying for temporary alternatives, etc.) ▪ The sacrifices the client makes to minimize the delay – compromising on the project specs. ▪ The personal grief to the client's key people.

5:21:1	Reliability focus (Cont.)
Parallel assumptions (Cont.)	➢ When most of the Company's business is delivering just a sub-project and the client adequately buffered its project by ordering the sub-project to be completed enough time in advance, Reliability may still be important for the client. It is important in cases where clients prefer to delay the decision on the ordered specs as much as possible. (In many environments it is likely that the need for changes are clear only in an advanced stage of the project. The earlier the completion date of the sub-project the lower is the flexibility to make content changes in the sub-projects. The higher the supplier Reliability the less need for big buffer and therefore the higher is the client flexibility to change content.) ➢ Analyzing the market without examining real examples, of prospects representing the company's clients, may not expose all relevant data and may even lead to distorted conclusions derived from extreme cases (which are, usually, the ones that have the biggest impact on intuition).
Tactic	The marketing and sales core team examines the different markets' sectors the company is serving, evaluating the extent Reliability is a significant need by analyzing the consequences of late delivery for the client. The team does the analysis by examining 3 (prospective) clients per market sector (less than 3 may risk looking at extreme case, more are not needed). The team identifies the preferred market sectors to leverage the Reliability offer.

5:21:2	Balanced sales plan
Necessary assumption	Reliability is a significant need for a broad market but some sectors are more accessible than others, some sectors yield higher throughput than others, some sectors are much bigger than others, some sectors have longer initiation time than others. Not considering those factors may lead to grave mistakes.
Strategy	The Company's sales plan is geared to generate more and more business from market sectors yielding best returns.
Parallel assumptions	Evaluating Returns: ➢ Past experience can point to the type of clients/market-sectors/ project-types that yield better Throughput. ➢ A particular project may yield less Throughput but would enable to win good future business (penetrating a client, establishing reputation, gaining experience). Evaluating Barriers: ➢ Some big organization clients have decision processes which prolong significantly the sales cycle. ➢ To win the business of some clients/some type of projects/some sectors the Company may require to invest in qualification. ➢ In some regions/market sectors the Company has much less sales infrastructure than in others. (CONT.)

5:21:2

Balanced sales plan (Cont.)

Tactic

For the sectors where the Company has a decisive competitive edge (and therefore a chance for a high hit ratio) the marketing and sales core team evaluates returns and barriers to create a proper sales plan - a plan that aims at increasing business in the short and medium horizon while preparing the ground for bigger sales in the future.

5:21:3	Prospects prioritization
Necessary assumptions	Even when the market analysis clearly shows where Reliability is most effective, salespeople (who are not used to having a decisive competitive edge) might still pursue mainly low probability opportunities they feel more comfortable with or where they have already invested a lot of time.
Strategy	The company prudently focuses its efforts on the most rewarding markets.
Parallel assumptions	➢ The earlier the salespeople experience the much higher hit ratio of selling the Reliability offer – the earlier the tendency, to pursue known prospects where the probability to win the project is low, will be reduce. ➢ When new sales approach is launched, salespeople are more likely to move immediately on a list that specify prospects than to approach a market defined in broad terms. ➢ The best prospects to approach first are: ▪ Prospects which are already in the pipe line and that are quite suitable for the Reliability offer. ▪ New prospects which are best suitable for the Reliability offer and have a short internal decision time. ➢ Additional considerations in prioritizing prospects: ▪ Key accounts review can surface accounts which have high risk of being lost and determine a recovery plan based on the Reliability offer (if adequate). ▪ It is not wise to Increase the dependency of the company on clients generating a big share of the Company's business. (CONT.)

5:21:3

Prospects prioritization (Cont.)

Tactic

The marketing and sales core team generates a list of prospects for the Reliability offer roll out:

- Mapping current prospective clients (exiting, past, new) creating a wide list of prospects belonging to the preferred market sectors.
- Defining prospects for test launch (representative clients salespeople can approach as soon as possible)
- Giving high priority to reduce the risk of loosing key accounts.
- Warning: if a client is responsible for a high share of the Company business – do not increase its share.

5:22:1	Value and Penalties
Necessary assumptions	Not just the sale force of the Company but also the client is not used to an offer which is not a conventional offer (based on remarkable reliability).
Strategy	The company's offer is constructed to take full advantage of it's Reliability competitive edge.
Parallel assumptions	➢ In project environments, rarely a supplier is attuned to the damage caused by late delivery. Explicitly verbalizing the damage the client incurs by late delivery demonstrates to the client the determination (and therefore the probable ability) of the Company to deliver on time. It is especially important in cases the (purchasing of the) client is not explicitly aware of the full implications of a supplier not being reliable. ➢ The penalties are a key element in demonstrating the remarkable Reliability of the Company: ▪ Setting the penalty too high (setting it in relation to the clients damage) may put the whole Company at risk. Setting the penalties too low might bring competitors to offer the same. The penalties should be high enough to let the client know the Company is determined to meet the promised due-date. ▪ Setting the penalties to be paid per time interval of delay will increase the client confidence in the company motivation to minimize the delay even when it occurs.
Tactic	The marketing and sales team clearly defines the relevant gains the client incurs by the Reliability offer – verbalizing the damage caused by late delivery. The team determines the penalties scheme (size and trigger points) to exhibit the company's confidence in its remarkable reliability.

5:22:2	Terms and Conditions
Necessary assumptions	In many multi project environments where the projects are (somewhat) repetitive and the resulting damage to the clients is very high, there is already a standard practice of demanding (in the contract) a penalty for delays. Never-the-less the number of actual cases of penalties paid are relatively rare. That points to the fact that suppliers are "experts" in avoiding responsibility for the delays. In general clients are aware, due to the above, of the limited effect of penalties in reducing delays.
Strategy	The offer's terms and conditions strengthen the Company's position as a remarkably reliable supplier.
Parallel assumptions	➢ One of the common ways suppliers avoid responsibility for delays is by compromising scope (cutting corners in testing etc.). ➢ One of the common ways suppliers avoid responsibility for delays is by inserting many "cover up" terms and conditions (blaming the client for the delay). ➢ The way to avoid terms and conditions that shade responsibility is to construct them under the conviction that: 1. The Company wants to win the project. 2. Demonstrating remarkable reliability is essential for winning the project (not just this project but winning projects consistently). 3. The Company has very high DDP (delivering well over 95% on or before the original promised due-date while in cases of late delivery the delay is much smaller than the prevailing delays in the industry). (CONT.)

5:22:2	Terms and Conditions (Cont.)
Parallel assumptions (Cont.)	➢ The way to construct terms and conditions that enhance the confidence in the Company's remarkable reliability is to: 1. Clearly and explicitly block the common ways to "cut corners". 2. Clearly and explicitly block common ways to shade responsibility for delays. 3. Define reasonable (still favoring the client) boundaries for the responsibility.
Tactic	➢ The team avoids terms and conditions that shade responsibility and instead puts terms and conditions that enhance the confidence in the Company's remarkable reliability. ➢ The template(s) for proper offers is determined. ➢ Sales managers are trained to use the template as a base for specific proposals.

5:23:1	Suitable Sales Force
Necessary assumptions	For a conventional sale, the sales force must know well the pluses (and minuses) of their products. For a business-deal sale, a salesperson must also know well the cause and effects underlying the prospect's environment. Not every person feels comfortable with cause and effect logic.
Strategy	The Company has a suitable sale force.
Parallel assumptions	Almost every salesperson who feels comfortable with cause and effect logic can be trained to sell a business deal. In small companies, usually, the sale force are the top managers. When the time come to hire sales people it is important to notice that most sales people are selling repeatedly the same products to the same clients. Such sales people might not be suitable.
Tactic	The Company dedicates salespeople who possess the attributes for business-deal selling.

5:23:2	Mastering the core
Necessary assumptions	➢ Achieving the client's strong buy-in, in the great value of the offer, is the core of the Reliability selling (performing it properly boosts the sales process, performing it poorly almost guarantees failure). ➢ The client has a set expectation of what the vendor is supposed to present in the first sales meeting. Following the set expectation of the client and just presenting the offer (without the supporting logic), guarantees failure.
Strategy	Sales people are skilled at conducting the raising interest presentation – the core of the Reliability selling - getting the buy in on the great value of the offer.
Parallel assumptions	➢ Vast experience shows that raising-interest-presentations are successful if constructed along the following lines: ▪ The value of the Reliability offer is in eliminating problems - the damage caused by delays. Getting a consensus that meaningful damage of delays exists is the first key step in obtaining the buy in. Presenting the damage as a result of common practices in the supplier's industry strengthen the perception of the Company as a reliable supplier looking to bring value to it's clients. It also prevents the risk that the client will argue the existence of the problems to avoid admitting failures in hes area of responsibility or to avoid giving power to the supplier in the "negotiation game". ▪ Presenting a list of sensible criteria to judge any suggested solution, aiming to eliminate the damage, is an effective technique to pave the way for the client to recognize the Reliability offer as the obviously best solution to hes problem. It also blocks any unsatisfactory different directions for a solution that the client may entertain. (Cont.)

5:23:2	Mastering the core (Cont.)
Parallel assumptions (Cont.)	▪ The bitter experience with unreliable suppliers conditioned clients to look for “the snake in the grass” – examining carefully the offer elements, checking if it solves the problems, if it does not involve real risks and if it is practical to implement. An effective way to strengthen the position of the Company as a reliable supplier is to unfold the offer elements as best meeting the criteria. ▪ Using the client’s remaining concerns (spoken or unspoken) as the base for the next steps (in which the concerns will be decisively put to rest) contributes significantly to the reliability perception. ➢ Roll playing is an effective technique to master a new buy in process: "The more you sweat the less you bleed --difficult in preparation, easy in battle“ ➢ The most effective way to convince the sales force that such a radical sales presentation does work, is to cause the team to experience it first hand.
Tactic	➢ The Reliability core presentation is designed by key salespeople. ➢ The key salespeople are coached (extensive role play) and handheld until they personally achieve successful core meetings – the test launch.

5:23:3	Sales Process
Necessary assumption	Not having a detailed sales process may lead to suggesting the wrong next step or, even worse, trying to push a prospect to close the deal too soon, which typically results in losing the deal.
Strategy	The sales process is detailed to the right steps.
Parallel assumptions	➢ Knowing how to conduct raising interest meetings greatly enhances the ability to design and conduct the prior steps in the sales process leading to the meetings and the consequent steps leading from Buy-in to closing a deal. ➢ Acquaintance with the clients' decision process together with the experience of selling a decisive, competitive-edge offer can be used to generate a tailored, powerful, sales process.
Tactic	➢ The core team defines the sales process - what the Company should do, at which stage, how (using standard tools), with whom and by whom in order to bring an identified prospect from "ignorance" to closing a deal. ➢ The salespeople are coached (extensive role play) and handheld until they personally achieve successful sales. ➢ The salespeople follow the prospects priority list – step 5:21:3. ➢ The core team constantly review and improve the processes and sales force execution.

5:51:1	Reporting Reasons
Necessary assumption	Under pressure the tendency is to solve the immediate problems rather than spending time to solve root causes.
Strategy	The data base required for launching effective improvement programs is available.
Parallel assumptions	➢ When a symptom is fixed, rather than a root cause, the root cause will continue to generate symptoms. A symptom is a delay, a root cause is the reason for many delays. Examining delays is a good starting point for identifying root causes. ➢ Trying to answer "What is the reason for the delay?" will lead in many cases to speculated reasons (or even worse, speculated solutions) and therefore lead the analysis astray. ➢ A way to answer objectively the question: "What is the reason for the delay?" is to answer the question: "What is the task waiting for?" This form of reason can be used as a starting point for identification of root causes.
Tactic	The Company creates the general bank of reasons by establishing the procedure of task managers reporting, for each delay of a task, what the task is waiting for.

5:51:2	Analyzing Reasons for Delay
Necessary assumptions	➢ Due to the structure of projects (most tasks are located on paths parallel to the critical chain) most delays in tasks' completion do not translate into projects' completion being delayed. ➢ Eliminating root causes for delays, causes that do not contribute to project delays, has a minor impact on the Company's performance.
Strategy	The main reasons for projects being delayed are identified.
Parallel assumptions	➢ Only the delays that contribute to the biggest penetration into the project buffer impact the project completion. Therefore, reasons that cause such delays are called relevant reasons. ➢ Due to the high uncertainty in project environments, the tasks that cause the biggest penetration in the project buffer, can be identified only after the fact (not only tasks on the Critical-Chain can be responsible for the biggest penetrations). ➢ Most times, it is the accumulation of delays along a path that causes a task to be the one penetrating the most into the project buffer. Conclusion: Reasons for delays must be continuously collected for all tasks. Once a task has been identified as the one penetrating the most into the project buffer, all the reasons (along the path) that accumulated to that penetration can now be identified as relevant reasons. ➢The data bank of relevant reasons is created and Pareto analysis is periodically done to identify the main relevant reasons.
Tactic	The bank of relevant reasons is built and periodically analyzed using Pareto analysis.

5:51:3	Implementing Improvement Projects
Necessary assumptions	Knowing the relevant reasons and eliminating the root causes for the relevant reasons, is not synonymous.
Strategy	The company has an effective, ongoing improvement program.
Parallel assumptions	Once the relevant main reasons have been identified, using Lean/Six-sigma improvement teams have been proven to be effective in identifying root causes and eliminating them. In multi-project environments it is very likely that some of the improvement initiatives resulting from the improvement-teams work will mandate changes in areas outside of the control/authority of the improvement team members and even their direct managers. Areas like: ▪ Procedures (purchasing, support function processes etc.) ▪ Increasing effective capacity of specialized resources. Implementing changes at this level mandates top management leadership.
Tactics	➢ Improvement teams are continuously addressing the main relevant reasons. ➢ Top management forms a special committee to supervise those initiatives and to ensure that the teams recommendations are effectively implemented.